The Journal of the
American Medical Association

Published Under the Auspices of the Board of Trustees

ol. LX. No. 15 CHICAGO, ILLINOIS APRIL 12, 1913

LIGATURE AND SUTURE MATERIAL

HE EMPLOYMENT OF FINE SILK IN PREFERENCE TO CATGUT AND THE ADVANTAGES OF TRANSFIXION OF TISSUES AND VESSELS IN CONTROL OF HEMORRHAGE

ALSO AN ACCOUNT OF THE INTRODUCTION OF GLOVES, GUTTA-PERCHA TISSUE AND SILVER FOIL

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For a number of years I have had it in mind to call attention to the particular method of employing silk ligatures and sutures which has been practiced in the surgical clinic of the Johns Hopkins University since the opening of the Johns Hopkins Hospital in 1889, but have hesitated and also been eager to do so for the same reason, namely, that our school seems to be almost alone in its advocacy of the use of this material.

Theodor Kocher, however, has for many years employed silk quite to the exclusion of catgut and our position is greatly strengthened by the support of such eminent authority.

Surgeons, old and young, those who have been active and masterful in the marvelous period of development of antiseptic surgery, and the medical student who takes for granted the healing of wounds *per primam* and the achievements of modern surgery as he does the ability to speak his own tongue, will be interested to read the words of Kocher[1] spoken in 1888. "'Away with the spray!' cried Bruns[2] some years ago — Bruns who achieved so much and who died, alas, so early — and gladly did one cast off this burden. 'Away with protective!' exclaimed Starcke[3] in an admirable essay on the treatment of wounds. But with the elimination of spray and protective there are still many of the seemingly essential features of the antiseptic technic to be discarded before the physician in general practice can be placed in that happy state of mind which pertains to the consciousness of his ability to avoid making the famous seven errors of Nussbaum. The 'away' must resound still further, and we say, therefore, primarily, away with the catgut! and also: away with all the prepared gauzes, from the Lister gauze to the newest productions of the manufacturers of supplies for dressings.

"To what misfortunes catgut can give rise more than one communication in the medical journals of years ago has testified. In the first place von Zweifel called attention to the decomposition which took place when catgut was kept in phenolized oil as recommended by Lister. Other surgeons have confirmed the observations that one may infect wounds directly with catgut preserved in the manner mentioned and we also have at one time published the case of a woman whose death after the excision of a struma sarcomatosa was attributable to the employment of catgut which had decomposed in the phenolized oil."

Kocher proceeds to relate the disastrous experience he had with catgut from May to July, 1887. Of thirty-one operations performed in a period of seven weeks, serious infection of the wound occurred in twenty-nine.

In one of the two non-infected cases silk was employed. Hence in this particular "catgut period" only one operative wound, a small one in which were very few ligatures, healed *per primam*. Catgut being totally discarded and silk reinstated, the infections ceased. From that time until the present, except possibly for brief periods of experimentation with catgut, Professor Kocher has, I believe, employed silk. I have not heard him state his reasons for preferring silk in these days when catgut may be perfectly sterilized, but that they are sound we may be sure. I can testify to the admirable healing of his wounds.

Our method of employing silk differs quite essentially from Professor Kocher's. The silk which we use is much finer than his and we rely on transfixion to prevent the ligature from slipping.

I am unable to say precisely when it was that I definitely substituted silk for catgut. It must have been earlier than 1883, for in that year or in 1882 Warmbrum Quilitz & Co. of Berlin made for me, in glass, bobbins of my designing, to be held in the left hand of the operator during the act of ligating blood-vessels. A description and illustration of these spools is given in the Johns Hopkins Hospital Reports.[4] I have employed them continuously from the time of their introduction to the present. When the operator desires to tie a vessel without tissue-transfixion he is handed a spool—not a thread cut to the length desired for a ligature. With the right hand the silk is unwound, as required, from the spool held loosely in the left. Only two or three yards are wound on each spool, but enough for the tying off of many arteries; and for each operation the silk employed is sterilized only once. The armed glass spools are steamed in heavy glass test-tubes (Fig. 1).

In the winter of 1886 and 1887, experimenting on the subject of intestinal suture[5] with Dr. Franklin B. Mall, I employed ordinary, fine black spool-silk as material for ligature and stitches. Black silk was selected in preference to white because it was easier to see it on the glass bobbins and in the fresh wound, and it was also more readily identified in the healed wounds. The little black loops of the mattress or Lembert stitches made a striking picture after a time, lying more or less free under the peritoneum along the line of the intestinal suture.

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[1] Kocher: Eine einfache Method zur Erzielung sicherer Asepsis. Corr.-Bl. f. schweiz. Aerzte, 1888, xviii.

[2] Berl. klin. Wchnschr., 1880, No. 43.

[3] Vortrag in der Berl. militärärztl. Gesellsch.

[4] Johns Hopkins Hosp. Rep., March, 1891, ii, 306.

[5] These experiments were conducted in the Pathological Laboratory of the Johns Hopkins Hospital. Am. Jour. Med. Sci., October, 1887, p. 436.

The following winters 1887-1889, in my experiments on the thyroid gland, I employed exclusively the black silk, just as we do to-day and have done ever since the opening of the Johns Hopkins Hospital twenty-four years ago.

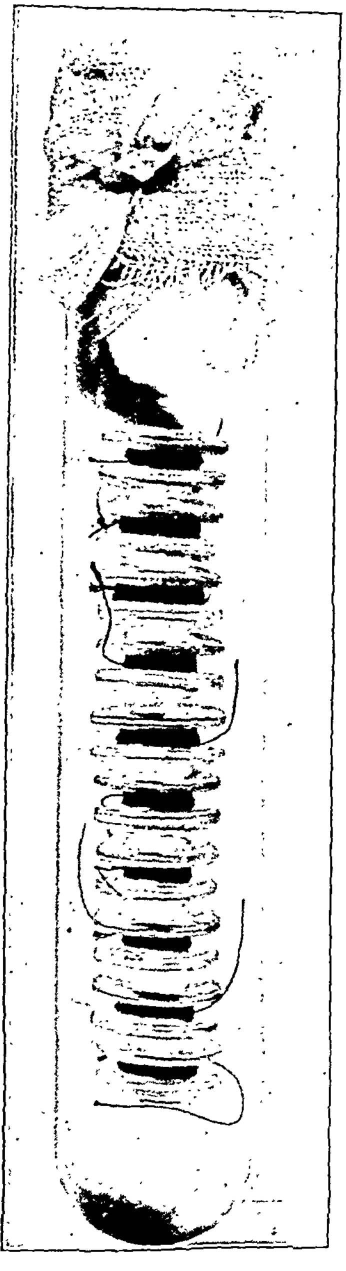

Fig. 1.—Ligature-spools of glass. A spool is held in the left hand while the right unwinds only so much of the thread as may be required for the ligation of one vessel.

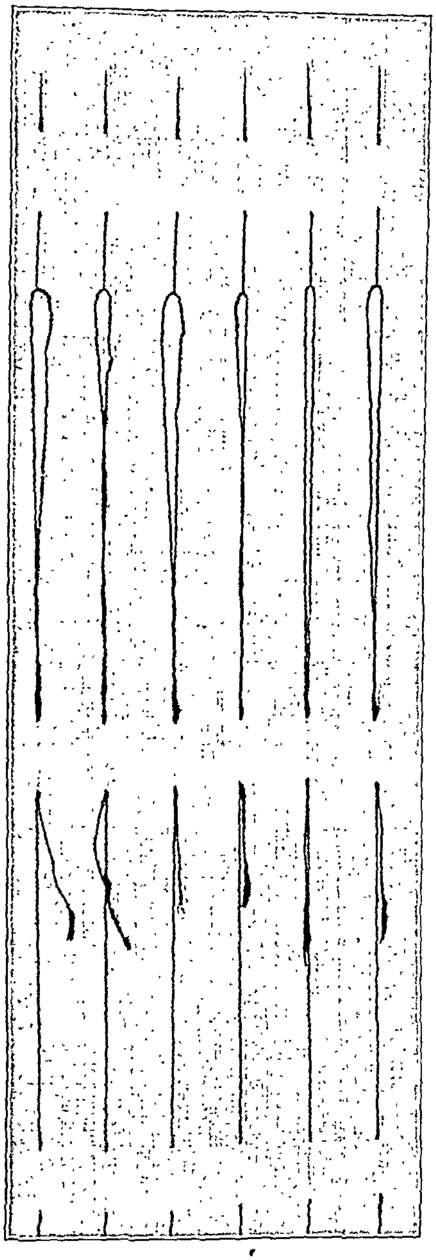

Fig. 2.—Reduced 3/5. To show method of basting the threaded needles. Silk No. C. Needle No. 7. We usually employ silk two sizes finer than this.

The relatively high cost of catgut, its bulkiness, the inconveniences attending its use and sterilization, its inadequacy, the uncertainty as to the time required for its absorption, and the reaction which it excites in a wound, induced me to discard it completely for clean wounds in the surgery both of the human subject and of animals. From year to year and for various periods of time I have given the catgut, sterilized by the best known American purveyors of this material, a trial, but invariably with the results which we interpreted as being less perfect than with silk. Infection from pathogenic organisms can, of course, only rarely be ascribed, nowadays, directly to the catgut sterilized by our most reliable firms. With the fine silk in our wounds, which for twenty-three years have, as a rule, been closed without drainage, suppuration almost never occurs.[6] But catgut, even that which we have no cause to believe is not sterile, irritates the wound for some reason, perhaps because it serves as culture medium for saprophytic organisms which are carried into it from the deep epithelium and follicles of the skin.[7]

We have frequently observed this irritation and have occasionally had the opportunity to compare the reaction caused by catgut with that of fine silk in wounds symmetrically situated in the same patient and made at the same time.

Let the surgeon interested in making the comparison, when he has occasion to amputate both breasts for non-malignant disease, take a running subcuticular stitch on the one side with catgut, on the other with fine silk (No. A or AA) and observe the healing wounds from day to day; or when operating on two goiters on the same day, employ catgut for the platysma suture in the one case and very fine silk in the other. There is not only greater local reaction in the cases sewed with catgut but in them the wounds will occasionally open at one or more points to discharge a few drops of clear or cloudy fluid.

Wedded to the use of catgut, the operator develops, undoubtedly, a special technic which enables him to avoid procedures which would be likely to cause trouble or inconvenience, but on the other hand, he is deprived of very useful devices which become indispensable and a delight to the surgeon who has acquainted himself with the possibilities of silk threaded in the ordinary fine straight needle of commerce.

Straight needles of various sizes and lengths are threaded in great number with the silk corresponding in size, and are coarsely basted in rows into strips of thin muslin or gauze (Fig. 2). The loaded strips are folded and stored for subsequent use. The necessity for threading needles in the course of the operation is thus obviated in great measure. Occasionally more than one hundred of these needles are employed at one operation, since our ligations, for the most part, are made by transfixion of the tissues about the vessel or by piercing the vessel itself when it is large or sufficiently important, or by a combination (Fig. 5) of these methods. Figure 3 illustrates the usual method of controlling hemorrhage from the larger vessels which have been isolated. For the control of bleeding points when the vessels have not been isolated, the needle is passed first under or between the vessel or vessels to be ligated, and then a second transfixion is made, more superficially, close to the point of the clamp and in front of it; the clamp is now tilted in the opposite direction while the operator ties the knot behind it (Fig. 4). Piercing the tissues a second time in this manner eliminates the trouble of seeing to it that the ligature, in the act of tying, is carried over the tip of the artery clamp. This method enables one also to use to the best advantage the clamps with fine points which in my opinion have much to recommend them and which in our clinic are employed almost exclusively.

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[6] Johns Hopkins Hospital Reports, 1891, ii, No. 5.

[7] The reader is referred to the admirable work and unusually convincing articles of Dr. Y. Noguchi, Arch. f. klin. Chir., xcvi, 394, and xcix, 948.

With the finest silk and needles one can perform feats in hemostasis which would be very difficult or impossible with catgut; for example, the control of small bleeding points over the trachea, of the pia mater, of the periosteum, and the suture of wounds of vessels.

In general terms ligatures taken in this way are drawn only with firmness sufficient to control completely the bleeding, and not so tight as to crush the tissues or interfere unnecessarily with their nutrition. The same tissues tied without transfixion would have to be crushed or strangulated by the ligature and thus, at best, be reduced to the condition of a graft with diminished chances of restitution and with increased danger of wound infection. Furthermore, ligation without transfixion necessitates the use of stronger silk for the reason that a transfixing ligature cannot slip.

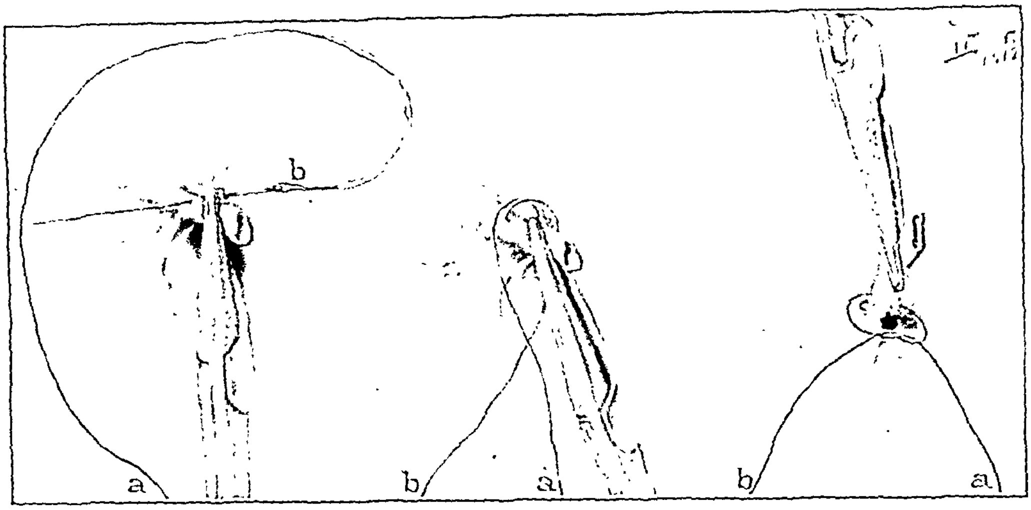

Fig. 3.—The ligation of an isolated vein or artery by transfixion. The vessel has been twisted to prevent bleeding from the needle-prick.

The surgeon who has not tested the method will be surprised to find how large a vessel may be safely entrusted to a transfixion-ligature of the very finest silk. I have seen a ligature of coarse silk, tied with crushing force, blown off, as it were, from the aorta of a dog—a ligature which had been applied 12 mm. from the proximal end of the divided vessel. This same artery was then safely obturated by a ligature of silk, No. A, which pierced it.

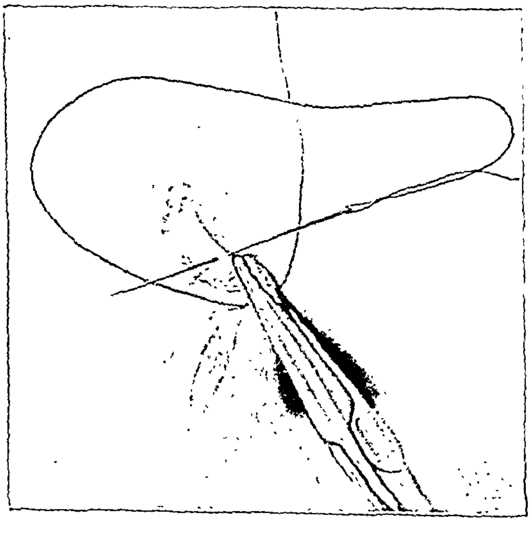

Fig. 4.—The usual method of controlling hemorrhage from one or more vessels by transfixion.

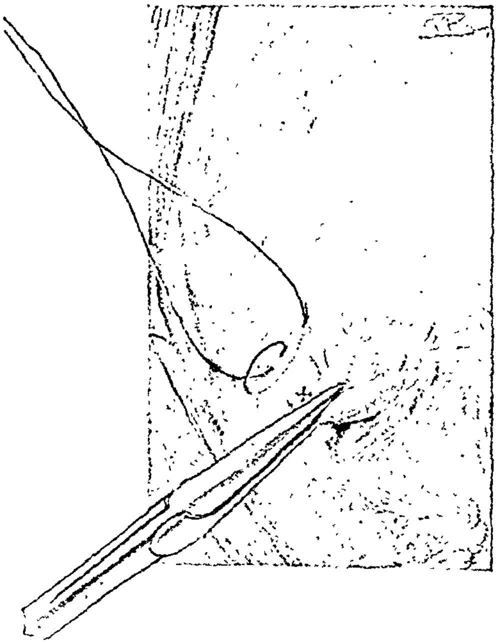

Fig. 5.—Ligation by transfixion of non-isolated vein, to be divided at X. The clamp is on the tumor-side of the vessel.

Repeatedly, he who uses catgut finds himself tying with a strand which is coarser than the vessel to be ligated.

Even for long abdominal wounds we rarely use a coarser silk than No. C (Fig. 2). Occasionally we reinforce with one or two sutures of silver wire which include skin and the anterior and posterior layers of the sheath of the rectus; otherwise fine silk (Nos. AA, A and C), is used throughout for sutures as well as ligatures. We seldom tie *en masse* in the ordinary sense of this term, and in clean wounds, I may say, never.

In the control of hemorrhage, parenchymatous or otherwise, we see to it that the thread is always well buried in the living tissue. It should not bridge over a dead space as a chord subtends an arc. In ligating the vessels of the superior pole of a thyroid lobe in the course of a lobectomy a fine, short, curved or straight needle, carrying one strand of fine silk is passed behind or between the vessels, and then through the twisted artery or vein, or both, and the thread is tied on both sides of the clamp. The ligation of the superior thyroid vessels is usually deferred until the end of the operation, these vessels being divided and entrusted to a reliable, fine-pointed clamp in the early stage of the operation.

The difficulty, the cost and the infeasibility of keeping on hand a large supply of needles threaded with catgut, as well as the size of the gut, almost preclude the extensive use of this material for the control of hemorrhage by transfixion.

That surgeons obtained excellent results with silk even when gloves were not worn one may convince himself by the papers of Kocher,[1] Heidenhain[8] and Hägler.[9] Now that rubber gloves are invariably worn, the results with silk, properly employed, are so perfect that I believe its adoption will ultimately become general.

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[8] Heidenhain: Centralbl. f. Chir., 1899, No. 26, p. 225.
[9] Hägler: Ibid., 1899, No. 5, p. 132.

A few days ago, seeing a surgeon of great eminence and unusual fairness of mind burying sutures of catgut I inquired, "Why do you still employ catgut?"

"Because I cannot free myself of the prejudice against a non-absorbable suture. I believe," said he, "that it is foolish to use catgut; and every now and then when my wounds break down too frequently I discard it."

The catgut with which he was sewing was No. 2 chromicized; it was guaranteed by America's most reliable firm "not to absorb" for twenty-six days, but not guaranteed "to absorb" within as many weeks.

It should be borne in mind that during the greater part of the period of its disintegration the catgut suture is not only not serving its purpose but is playing the rôle of necrotic tissue, of a culture medium. I trust that I shall not be considered flippant in suggesting that the ideal absorbable suture-material might be a thread which would serve its purpose for, say, ten days and be absorbed in three.

Conceded that infection is less likely to occur with silk than with catgut, it would still be objected, and quite pertinently, that, in case it should occur, the buried silk might give endless trouble and have to be removed.

It is well within reason to expect that the technic may be at least so perfect when silk is employed that the wound will become infected not once in a hundred cases. If fine silk were used and the infection slight, probably none of the buried threads would be extruded, nor would healing be delayed demonstrably on account of their presence. When heavy silk has been used for any of the sutures and the suppuration is considerable, one or more or, perhaps, all of the threads would have to be removed. Even in such a case it is very unlikely that the ligatures and fine sutures would give trouble.

THE CLAMP TWIST IN THE CONTROL OF THE HEMORRHAGE

A vessel or bleeding point inaccurately caught by the artery clamps and requiring immediate ligation for any reasons may, as is undoubtedly well known, often be controlled by a half-twist or slight rotation of the clamp. The precise situation of the vessel may then be determined by cautiously untwisting the instrument to the degree necessary to permit the escape of a fraction of a drop of blood and then retwisting. Now, instead of removing the clamp and trying again to catch the vessel in a field which, in such case, might be more or less obscured by hemorrhage, one transfixes once or twice in a dry field at the proper place and ties on one or both sides of the forceps; or if there is indication and room for two clamps, a second may be applied when the exact situation of the bleeding point has been revealed by the untwisting of the first.

The surgeon can transfix accurately with one hand while he holds the clamp in the other, and, by pulling on the twice transfixing thread, check the hemorrhage before tying. The bleeding being arrested, both hands are freed for making the knot.

THE INTERRUPTED STITCH

We find ourselves using the interrupted variety of suture even more frequently than formerly. It is more accurate, reliable and convenient than the running stitch, and, with the long straight needles armed and conveniently arranged as I have described, can be taken about as quickly as the latter. The head nurse of the operating-room hands the threaded needles to the surgeon, presenting them to him pointward. The operator can take a stitch in the time required by the nurse to withdraw the next needle and thread from the cloth in which they have been basted. The knots are tied after all the stitches have been taken. With the aid of a good assistant very little time is consumed in the tying. A granny knot is adequate when fine silk is used. In some instances the granny is better than the reef knot, for in the tying of the former in the presence of tension the traction on the first turn of the knot can easily be maintained, and should the first turn loosen, in the taking of the second the slack can usually be taken up in the drawing home of the latter.

UNDRAINED WOUNDS

Fine silk frequently enables one to close a wound which would have to be drained if catgut were employed. Bleeding points so fine as to be awkwardly or not at all ligable with catgut may be readily and quickly controlled by a transfixing suture of the finest silk tied sometimes with merely a half knot. When the ends of such a knot are cut very short the silk is barely visible.

I am taking for granted it will be conceded that unless the hemostasis is quite perfect and the likelihood of bleeding after closure of the wound negligible, drainage should usually be resorted to. Unfortunately catgut as material for ligature does not afford the security from hemorrhage that silk does, partly because its knots are not so dependable and partly because, as I have said, the former cannot so conveniently or so universally be resorted to for transfixion as the latter.

FAULTY TECHNIC

The surgeon who desires to use silk and who, after giving it a fair trial, finds that his results are not so good as with catgut may, I think, quite surely attribute his failure to himself—to faulty technic. By faulty technic I do not mean merely breaks in asepsis.

One should not of course use silk for ligating or suturing in the presence of infection. Nor should one bring parts together under such degree of tension as to cause necrosis or interfere greatly with the blood-supply, for nothing is gained by so doing and decided harm may result. Healing is menaced when the circulation of the tissues to be united is impaired.[10]

In operations made through healing tissues catgut may occasionally be used in preference to silk.

The silk employed should never be coarser than necessary and it is useless to employ a thread for suture which is stronger than the tissue itself. A greater number of fine stitches is better, as a rule, than a few coarse ones.

Avoid, if possible, the combined use of silk and catgut in a wound.

For sewing up an abdominal wound, when it is necessary here and there to take heavy deep stitches perforating skin and muscles, silver wire serves admirably. When the skin can be approximated without tension we usually employ interrupted perforating stitches of very fine silk. If the skin-edges have to be brought together under considerable tension we recommend a subcuticular stitch of silver wire taken with the Hagedorn or Schnötter[11] needle.

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[10] In operations for the oblique as well as the direct form of inguinal hernia we sometimes split vertically the sheath of the rectus muscle for the relief of strain on the stitches holding together the internal oblique muscle or conjoined tendon and Poupart's ligament.

[11] It is known only to a few surgeons that the late Dr. Schnötter, surgeon to the German Hospital, New York, devised and used the needle curved on the edge some years before Hagedorn described it.

I have presented this matter in such detail because so many have tried with indifferent or worse than indifferent success to substitute silk for catgut, and because I am told, as I have said, that the operators and pupils of the surgical clinic of the Johns Hopkins University are quite the only ones in this country who systematically employ the former.

I believe that the tendency will always be in the direction of exercising greater care and refinement in operating, and that the surgeon will develop increasingly a respect for tissues, a sense which recoils from inflicting unnecessary insult to structures concerned in the process of repair.

THE EPITHELIAL STITCH

In the toilet of wounds in animals we meet conditions different in some respects from those which obtain in the human subject. The long hair, the deep follicles of the skin of dogs and the inconveniences incident to subsequent dressings make it desirable to modify the technic of closing the wounds in these animals.

Stitching of the platysma muscle does not hold together sufficiently well the edges of the skin, and the subcuticular stitch taken close to the incised border is not so safe in the dog as in the human subject because the follicles are relatively deeper and more numerous in the former. Hence, in the dog, after suturing the platysma we place a running subcuticular suture a little further than usual from the free edge of the skin. Should now the approximation of the skin not be sufficiently perfect we add the "epithelial stitch." This is made with silk about 00 fine and with a needle to correspond. Hardly more than the epithelium is pierced by the needle, and the suture when completed describes almost a straight line (Fig. 6). The epithelial stitch produces no irritation and does not require subsequent attention, for it rubs off in the ordinary process of attrition, or it may be pulled off at any time like a plaster. Inasmuch as, in dogs, stitches which pierce the skin should be removed in two or three days lest the infection which they cause give rise to suppuration, and as it is undesirable and troublesome in the case of animals to remove stitches or to expose the wound so soon after operation, stitching in some such way as above described has decided advantages.

CELLOIDIN-BATISTE

In many of our operations, and always when it seems particularly indicated, we paste to the skin over a wide field a fine batiste (sometimes gauze, or silk) dipped in celloidin.

In amputations at or near the hip-joint, the actual field of operation may or may not be covered with the cambric. A liberal flounce-like sheet pasted along the side of the genitals from pubes to sacrum, along Poupart's ligament and from the anterior superior spine of the ilium along the outer side of the thigh to the tuberosity of the ischium, in other words a truncated hollow cone which encircles the thigh just above the line of amputation, suffices. This flounce should extend well up on to the abdomen and back and side, and down on the inside of the opposite thigh.

GLOVES

Rubber gloves must, of course, be worn by all concerned in the operation.

In a letter of a few weeks ago the director of a famous German clinic asked me to give him references to articles that I might have written on the subject of rubber gloves. As response to his request and believing that a brief account concerning the introduction of gloves may eventually be of interest I will, in as few words as possible, relate the story.

In the winter of 1889 and 1890—I cannot recall the month—the nurse in charge of my operating-room complained that the solutions of mercuric chlorid produced a dermatitis of her arms and hands. As she was an unusually efficient woman, I gave the matter my consideration and one day in New York requested the Goodyear Rubber Company to make as an experiment two pair of thin rubber gloves with gauntlets. On trial these proved to be so satisfactory that additional gloves were ordered. In the autumn, on my return to town, the assistant who passed the instruments and threaded the needles was also provided with rubber gloves to wear at the operations. At first the operator wore them only when exploratory incisions into joints were made. After a time the assistants became so accustomed to working in gloves that they also wore them as operators and would remark that they seemed to be less expert with the bare hand than with the gloved hands.

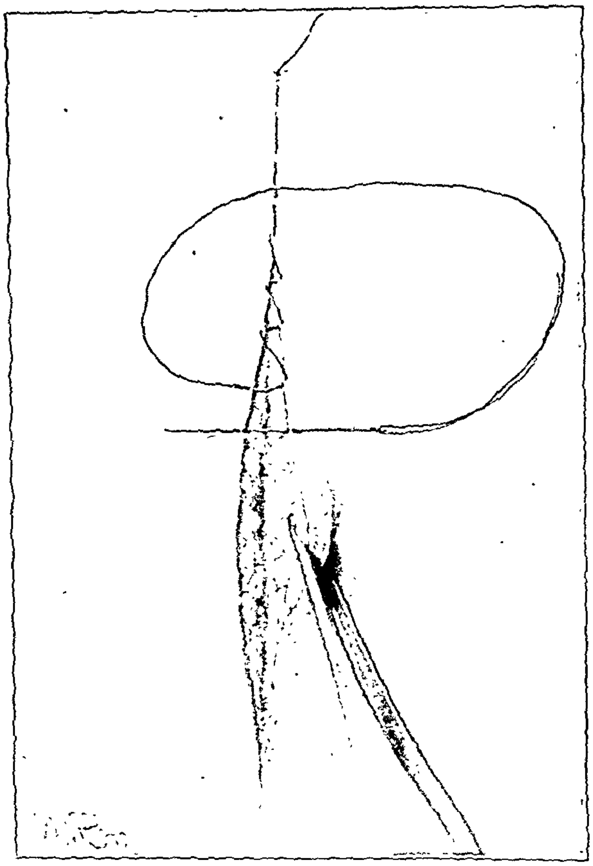

Fig. 6.—The epithelial stitch. The thread, needle and bite of skin should be much finer than the drawing indicates.

I think it was Dr. Bloodgood, my house surgeon, who first made this comment and that he was the first to wear them, invariably, when operating.

In the report[12] which I made of the first year's work at the hospital, written in November and December, 1890, and published in March, 1891, I stated that the assistant who passed the instruments wore rubber gloves. This assistant was given the gloves to protect his hands from the solution of phenol (carbolic acid) in which the instruments were submerged rather than to eliminate him as a source of infection. I do not recall having referred again, in my publications, to the employment of rubber gloves. Dr. Hunter Robb in 1894, in his book on aseptic technic[13] recommended that the operator wear rubber gloves. Dr. Robb was, at that time, resident gynecologist of the Johns Hopkins Hospital and had frequent opportunities to observe the technic of the surgical clinic.

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[12] Johns Hopkins Hosp. Rep., iv, No. 6, plate xii.

This incidental reference by Robb in 1894 to the wearing of rubber gloves, and the fact that a photograph of an operation for breast cancer taken late in the year 1893 shows that gloves were not being regularly worn by us at that time, serve to establish approximately the date of their definite introduction.

Dr. Joseph C. Bloodgood, in his elaborate report[15] on Hernia makes the following statements with reference to the wearing of gloves:

> The writer was the first as operator to wear gloves as a routine practice in practically all clean operations. He began to wear gloves invariably in December, 1896; before this date he had operated in twenty cases of hernia with four suppurations, all late infections; wounds were closed with silver wire. Since wearing gloves he has operated in 100 cases of inguinal hernia. In one case (recent) the wound suppurated.
>
> Rubber gloves were introduced by Professor Halsted soon after the hospital opened in 1889. They were invariably worn by the assistant who handed instruments and by the assistant at the wound, usually the nurse in charge of the operating-room. The operator himself rarely wore gloves *(at that time)*[16] except when clean joints were opened.

Thus the operating in gloves was an evolution rather than an inspiration or happy thought, and it is remarkable that during the four or five years when as operator I wore them only occasionally, we could have been so blind as not to have perceived the necessity for wearing them invariably at the operating-table.

It is also noteworthy that none of the many surgeons, foreign and American, who visited our clinic in those years should have recognized the desirability of eliminating the hands as a source of infection, by the wearing of gloves.

We did not realize how slightly the sense of touch is obtunded by the rubber covering,[17] or how unessential it is in most operations that the greatest delicacy of finger perception be preserved. Furthermore we were delighted with the results in healing already obtainable, so vivid were the memories of infections in the recent past.

SILVER FOIL

Since 1894[18] we have covered our fresh wounds with silver foil and are quite convinced that this dressing has appreciable chemical as well as physical values.

That various metals inhibit the growth of certain organisms has been proved by Miller,[19] Nägeli,[20] Behring,[21] Uffelman,[22] Meade Bolton[23] and others.

Bolton's work interested me particularly because very kindly, in our behalf, he tested thoroughly the effect of silver on the growth of the common pyogenic micro-organisms. For his experiments he used silver in various forms but particularly the silver foil with which we were at the time covering our wounds.

I had previously employed foils of copper, brass, gold and aluminum and had found that copper and brass irritated the skin. The silver foil had given, clinically, the most satisfactory results and I was pleased to find that its use had the support of Bolton's carefully conducted experiments. The admirable behavior of wire in wounds which has been commented on for centuries may, therefore, be attributed to its antiseptic properties.

Under the foil the stitches which perforate the skin may, it seems to me, be left undisturbed for a greater number of days than under the ordinary dressings. Thiersch grafts implanted on clean fresh surfaces and covered with silver foil need not be investigated for ten days or more. The foil, while it seals the dry wound hermetically, readily permits the escape of fluids.

We may, possibly, overestimate the value of silver foil as a dressing, but we are wedded to its use, and I know of nothing which could quite take its place, nor have I known any one to abandon it who had thoroughly familiarized himself with the technic of its employment. Moistening the skin and the applied foil with alcohol facilitates its application, but alcohol should not be employed in the laying on of the foil over skin-grafts.

Three or four layers of foil are usually placed on the closed incision, and over these is laid the thin paper between the leaves of which the foil is packed. We have occasionally covered the foil with strips of very thin, bibulous, Japanese paper. Foil without paper and covered with crêpe lisse and celloidin makes a particularly neat dressing for wounds of the face and scalp.

GUTTA-PERCHA TISSUE

Dr. Jacob Frank,[24] in an interesting account of the discovery of gutta-percha and the uses of gutta-percha tissue in surgery stated that perhaps the first mention of this tissue is to be found appended to a report on gutta-percha submitted to the Académie de médecine, July 30, 1850, by a commission composed of Messrs. Chevalier, Poiseuille and Robert. It was called *tissu électro-magnétique*, approved by the National Academy of Medicine, tested in the various hospitals in Paris, and recommended as a sovereign remedy for gout, rheumatism, sciatica, migraines, neuralgias and gastralgias, for the resolution of varices, for the dressing of wounds, burns, etc.; also for pneumonia in its early stages. The tissue was relatively thick; it could be washed and used indefinitely, and was represented as being greatly superior to the medicated oiled papers which were not only inert but soiled the body and the linen and were altogether disagreeable in use. "To convince oneself of its magnetic properties, one had merely to rub it lightly on a piece of cloth and hold it above sawdust. Instantly particles of the sawdust would spring up and attach themselves to the tissue."

In the light of our experience with the gutta-percha tissue of the present day we can well believe that the *tissu électro-magnétique* was really serviceable at times in the treatment of the affections enumerated. Its disuse may have been due in part to its pseudonym.

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[13] Robb, Hunter: *Aseptic Surgical Technic.*

[15] Johns Hopkins Hosp. Rep., 1899, vii. Operations on 459 cases of hernia in the Johns Hopkins Hospital from June, 1889, to January, 1899.

[16] Italicized words mine.

[17] For example, in the early days of rubber gloves I removed the glove from one hand, not infrequently, to palpate the common bile-duct in search for stone.

[18] *Halsted:* Am. Jour. Med. Sc., July, 1895.

[19] Miller: Demonstration einer Methode zur Bestimmung der antiseptischen Eigenschaften von Zahnfüllungsmitteln, Verhandl. d. deutsch. odont. Gesellsch., 1889, i, 34.

[20] Nägeli, C. von: Ueber oligodynamische Erscheinungen in lebenden Zellen. Denkschr. d. schweiz. naturforsch. Gesellsch., 1893, xxxiii, 1. See also review in *Bot. Centralbl.*, lv, 93.

[21] Behring: *Ztschr.* f. Hyg., 1890, ix, 482.

[22] Uffelman: Beiträge zur Biologie des Cholerabacillus, Berl. klin. Wchnschr., 1892, No. 48, p. 1212.

[23] Tr. Assn. Am. Phys., 1894, *p.* 174.

[24] Frank, Jacob: Gutta-Percha Tissue in Surgery, The Journal A. M. A., March 19, 1910, p. 942.

Dr. Manoury,[25] six years later, recommended medicated plaques[26] of gutta-percha.

> To apply a plaque one dips it in warm water, 40 degrees, in order that it may conform by its flexibility to the protuberances and anfractuosities of the ulcer; when it has been applied one covers it with a cloth wet with cold water, with view to preventing the adhesions of this cloth to the external surface of the plaque.

A. Cousin[27] in 1872 wrote as follows:

> Gutta-percha, on account of its numerous and valuable properties, has for a long time attracted the attention of practitioners of medicine and surgery, and on consulting the instructive collection of the *Bulletin de thérapeutique* one finds not less than twenty-three papers devoted to the consideration of the diverse uses of this substance.
>
> It has been employed, in the solid state, in the fabrication of apparatus for fractures, of caustic pastes, of sounds and bougies, *of prothesis, of various utensils;* dissolved in chloroform it was at one time much vaunted in the topical treatment of certain skin affections as substitute for collodion.
>
> Every one knows to-day the excellent results obtained by the occlusive method in the treatment of a great number of medical and surgical affections (occlusive dressings, compressing or contracting, of collodion, swathing in impermeable cloths, pneumatic occlusion, wadded splints, etc.). It would take too long to study, comparatively, the indications for the various dressings or the advantages and defects that they present; I wish simply to make known to the readers of the *Bulletin* a method which I believe to be new and which is assuredly a simple and easy one for making occlusion.
>
> I employ for this purpose leaves of gutta-percha reduced by rolling to the thinness of waxed taffeta, and I take advantage of its extreme solubility in chloroform to give to this material adhesive qualities of considerable degree.
>
> I proceed in the following manner: Given a surface of skin to be covered, I cut a piece of flattened gutta-percha to dimensions two or three times as large as this area; I trace along the border of this variety of plaster, for an extent of 1 or 2 cm., a brush dipped in chloroform and apply it immediately to the skin; adhesion takes place with great energy at all the points touched by the chloroform, and so perfectly that the slightest irregularities of the skin are reproduced with remarkable fidelity in the impermeable material.

I have quoted at such length from the article of Dr. Cousin in order to make clear what were the uses which had been made of gutta-percha tissue to the year 1872, and because it may be interesting to others to read the original description of a clever and useful procedure—the pasting of the edges of a leaf of gutta-percha to the skin by means of chloroform.

Occasionally we paste with chloroform in this way a small scrap of gutta-percha tissue to a piece of old linen when the skin surrounding the granulating surface which is to be covered with gutta-percha tissue is likely to become irritated by the discharges from the ulcer. In such case the protective is cut to the precise size of sore, the skin about which being covered with an ointment of zinc oxid; the discharges are promptly absorbed by the linen and overlaid dressings. It is well, under these conditions, to cut a tiny hole through both protective and linen to permit the prompt escape of the secretions of the wound into the dressing.

Dr. Frank gave two references[25, 27] to the early employment by physicians of plaques or "sheets" of gutta-percha, but was unable to make any statement relative to its introduction in its present form and for its present purposes, and leaves unfilled a gap of perhaps a quarter of a century.

As I know of no one except myself who can tell the story I may be pardoned for a moment's indulgence in reminiscence.

As intern of Bellevue Hospital, New York, from 1876 to 1878 I had frequent opportunities to observe the pain and bleeding incident to the tearing out of gauze from large involucral cavities after sequestrotomy—gauze which had been stuffed into these cavities to arrest bleeding and into which the granulations had grown, often for a considerable distance. Wounds of the soft parts would also be packed with gauze, which from its adhesion to the skin would cause pain, sometimes very distressing, and the first removal of the gauze was an event anticipated with apprehension by the patients, who were quite sure to be advised by their ward-neighbors of its terrors.

During the two years of my study abroad the desirability of obviating this rather barbarous practice was repeatedly enforced on me by what I saw in the foreign clinics, and on my return to America in 1880 I promptly cast about for some sort of protective, non-adhering dressing. Oiled silk and the green protective of Lister were not sufficiently pliable. Finally a salesman in one of the surgical supply stores showed me a bed-sheet of gutta-percha as heavy as blotting-paper, remarking that it could be rolled out to any degree of thinness. I requested him to procure the thinnest tissue possible, and in the course of a few weeks he provided me with samples, none of which was sufficiently thin. After a month or two tissue of the desired thinness was obtained and from that day until the present, a period of nearly thirty-three years, gutta-percha tissue, usually referred to as rubber tissue or protective, has been one of the most prized and indispensable articles of my surgical armamentarium.[29]

Accounts of the first employment of gutta-percha tissue to protect granulations from insult and to prevent them from growing into or adhering to drains, gauze packs and dressings and to promote healing under a moist scab can probably be found in the records of the Roosevelt Hospital Dispensary, New York, from 1881 to 1886, the term of my incumbency as director of this dispensary; and some of my assistants and students of those years will doubtless recall having employed it there as a dressing for wounds.

I have not searched for references to the use of gutta-percha tissue in its present form and for its present purposes subsequent to the time of its introduction in 1881, but I am quite sure that no mention of it will be found prior to 1884 or 1885, and that should there be any such it will have been made by surgeons of New York who might have learned of it from my students or seen it employed at one of the various hospitals with which, as attending surgeon, I was connected.

Its employment as drainage material for the abdominal cavity came about as follows:

At first we tucked it about the gauze drains at the surface only, in order to prevent adhesions to the skin. Then the protective was carried deeper and deeper into the wounds until finally the entire gauze drain or gauze pack, except at the very bottom, was enveloped in the gutta-percha tissue.

The experiments of Dr. Yates of my staff, made to determine the amount of time required for the formation about the protective of intestinal adhesions, were especially important and had their influence in emboldening the surgeon at times to dispense altogether with the gauze, placing his reliance on the gutta-percha.

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[25] Manoury, A.: Des plaques de gutta-percha médicamenteuses t leur applications, Bull. gén. de therap. méd. et chir., 1856, *vol. l.*

[26] *a.* Plaques de gutta-percha et de limaille de fer porphyrisée. Plaques vésicantes composés de gutta-percha et de cantharides. austique fluidifiant (gutta-percha and potassium). *d.* Caustique gt (gutta-percha and chlorid of zinc).

. Sur l'emploi de la gutta-percha laminée comme Bull. gén. de therap. méd. et chir., 1872, lxxxii.

[29] Brief reference to the use of gutta-percha tissue is made in Johns Hopkins Hosp. Rep., ii, No. 5, p. 306.

Not very often do we venture to drain an abdominal wound with nothing but protective. Usually the cigarette form of drain is employed—gauze enveloped in protective—when we wish to know that a drain is precisely and promptly fixed in the desired position, as it is by the little tuft of gauze at the bottom of the cigarette.

For certain cases in which it seems desirable that adhesions should form more rapidly and firmly about the abdominal drain we make it as follows: Two squares, one of gauze (single sheet) and one of protective, are rolled together, the gauze outside, until a drain of the desired thickness is obtained. Granulations cannot pierce this drain deeper than the single layer of gauze, because they at once encounter the underlying protective. Such a drain is removed quite as easily as the cigarette drain and offers a little more security than the latter.

A moist scab, so-called, is better than a dry one. The surgeon has many opportunities to convince himself of this. When he has occasion to extract a toe-nail let him cover one-third of the raw surface with protective and allow the remainder to heal under the dry scab. The patient may have pain in the digit soon after the dry scab is well formed, and the surgeon will perhaps observe that the soft parts about the nail-bed on the side of the dry scab are inflamed. On covering the entire surface of the granulating wound with gutta-percha sue the pain will promptly be relieved and the inflam- on subside.

e dry scab imprisons secretion which in turn gives to tension. and the tension impairs the vitality of sues under and at the border of the dry scab extent sufficient to place them at a disadvantage their combat with the microorganisms, and to compel bsorption of the toxins.

Even pimples and trivial wounds of, for example, the fingers behave best under the moist scab. For the healing of wounds under the moist blood-clot, particularly when the skin cannot be made to cover the cavity to be filled with blood, gutta-percha tissue is invaluable. It would be found useful in every household and should be included in the supplies provided for first aid to the injured. The value of the moist scab should be common knowledge for the layman, and gutta-percha tissue should replace for him the sticking-plaster as a covering for wounds.

A few months ago in reading one of Lister's[30] first papers on the use of phenol in wounds I noted that he mentions having covered a wound with a tissue of gutta-percha. This interested me so much that I wrote at once to Sir William Watson Cheyne, being confident that no one could give me the desired information so well as he. From his kind reply I quote as follows:

> So far as I understand the matter, Lister tried various materials to cover the wound after an operation, so as to prevent the phenol in the dressing from penetrating in any quantity to the wound. Among other things he tried gutta-percha tissue, but he abandoned that because the phenol easily passed through it so that it did not protect the wound from the irritation of the antiseptic, and the material he ultimately hit on was oiled silk, covered with a layer of dextrin, so as to allow it to be wet. The oiled silk itself did not prevent the phenol vapor from passing through it, but the combination of oiled silk and shellac, according to Lister's experiments, did. As regards any question of priority in using it, so far as any claim can be advanced on Lister's behalf, it would not hold, because he tried it and abandoned it as being unsuitable for his particular purpose.

From 1879 to 1889 I made frequent visits to England and the continent and was in close touch with the work of the surgical clinics of England, France and Germany, and not once in that period did I see gutta-percha tissue employed in Europe.

It is gratifying to me to observe the place in surgery which gutta-percha tissue has gradually won for itself. For the American surgeon it has become an indispensable appurtenance of his equipment.

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THE CONSERVATIVE TREATMENT OF DIABETIC GANGRENE OF THE LOWER EXTREMITY

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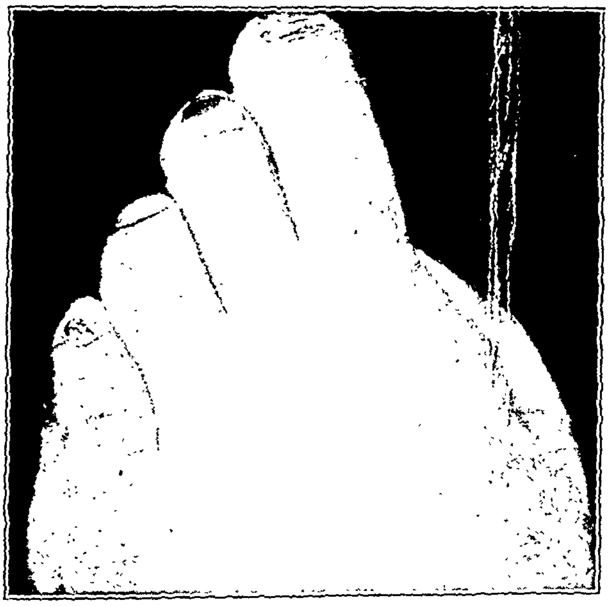
When I began my practical surgical work some eleven years ago, I was appalled by the tremendously high mortality following operative interference in cases of diabetic gangrene. The usual treatment at that time was early amputation in the thigh under chloroform or ether anesthesia. The death-rate must have reached nearly 100 per cent., for I distinctly recall my agreeable surprise and astonishment when I witnessed the first recovery after seeing patient after patient, inside of a period of about two years, die in coma within from a few days to a couple of weeks after high amputation. It has always been my conviction that there was something radically wrong with our therapy, and, that, if we adopted more rational methods, our results would be improved. By a gradual evolution we have finally developed a system of therapeutics that holds out some hope for these cases, which at one time gave such an utterly hopeless prognosis. It has been my good fortune to test this system in a series of cases which have come under my observation in the past two and a half and though the series is small, the dif



Foot of Patient 4. Note the division of the nail into two segments. The formation of the healthy, new segment began with the hyperemic treatment.

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[30] Lancet, London, March 16, 1867, p. 328.

results has been so striking that I feel that a publication of my experiences is warranted at present.

In dealing with diabetic gangrene we must first appreciate the essential factors in the pathology of the condition. The primary feature of this type of gangrene is identical with that of every other form of necrosis, namely defective nutrition. In diabetic gangrene, this is invariably due to an obliterating endarteritis of the main arterial vessels of the limb. Added to this, however, we have a greatly increased susceptibility to local death, owing to the generally diminished resistance of the body from the exhausting effects of the perverted metabolism of the disease on the one hand, and to the extreme predisposition of the parts to bacterial invasion on account of the excellence of the cultural properties of the glucose-soaked blood and tissues on the other. Further, we must always bear in mind that systemic complications of the disease must be reckoned with. Of course, of these the all-important one is the so-called acidosis, resulting frequently in the almost invariably fatal diabetic coma of Kussmaul. The tendency to pneumonia, sepsis and decubitus is also not to be ignored.

The most obvious result of the former method of treatment by early high amputation was the more or less rapid development of diabetic coma following operation. This was apparently due to the shock of the operative interference *per se*, or to the effects of the ether or chloroform anesthesia. When nitrous oxid anesthesia was substituted and the operation more expeditiously performed, the results were somewhat improved. Usually, however, the stump became gangrenous from the actual trauma to the poorly nourished and susceptible tissues at the site of operation. Gangrene of the flaps, sloughing of the deeper structures, retention, necrosis of the bone, often necessitated reamputation and if the patient escaped a coma after the first operation, the shock of repeated major operations and anesthesias was usually sufficient to cause the development of coma after the second or third operative attempt. Simplification of the technical details of the operation, the avoidance of osteoplastic methods, the use of circular flaps and the leaving of the flaps wide open without any sutures whatever, still further improved the results and diminished the frequency of the necessity for reamputation, if the patient survived the first operation.

Still the results were anything but brilliant and it became apparent that these radical measures were not correct. Three questions naturally presented themselves: First, why was a radical amputation advisable at all in the vast majority of cases? Second, what was the urgency for radical measures? Third, if amputation was necessary, was high amputation always indicated? A careful consideration of these three questions in conjunction with our clinical observations convinced me that in answer to the first proposition we could definitely state that in most of the cases a radical amputation was not advisable. In answer to the second question, we could say that although amputation might become necessary owing to the extension of the gangrene or phlegmon, it was almost never imperative at the inception of the gangrene. In answer to the third question, we could say that if amputation became necessary, high amputation was by no means always indicated, the choice of the site of amputation depending on various factors.

From these premises a method of conservative therapy has been gradually evolved based on the following three cardinal principles:

1. Systemic treatment of the diabetes and prophylaxis against the development of dangerous complications, especially coma.
2. An attempt to improve the circulation in the extremity.
3. The treatment of the local infection on rational general surgical and aseptic principles.

Inasmuch as individualism is the watchword in the application of these three principles, I shall first present the clinical data of the series of cases which in the past two and a half years I have had the opportunity of treating according to this plan.

CASE REPORTS

Case 1.—June 21, 1910: A. B., woman, aged 51. Diabetes, eleven years; local trouble, four weeks. Examination: Phlegmon of the dorsum of the left foot, with a necrosis of the extensor tendon of the second toe and beginning gangrene of the surrounding tissues. Phlegmon extended up the leg. General condition fair. Temperature 100.6 F.

Sugar, 1.5 to 5 per cent. Acetone +. Diacetic acid +. Radials soft. Popliteal pulse felt. No posterior tibial nor dorsalis pedis pulse felt.

Routine conservative treatment. Operative procedures: Phlegmon incised four times, June 21 and 27, July 18 and Aug. 13, 1910. Final incision extended up leg, nearly to tibial tubercle and gangrenous tendon of tibialis anticus was removed at the time. Duration of treatment, three months. Result, cured.

Patient was last seen Feb. 21, 1912. She had gained twenty-one pounds. She has had a small ulcer in the scar for a few days. Otherwise, she is very well.

Case 2.—Oct. 14, 1910: J. K., man, aged 57. Diabetes, three and a half years; local trouble, three weeks. Examination: Beginning gangrene of the second toe, left foot, with necrosis of the proximal phalangeal joint. General condition good.

Sugar, 3.5 per cent. Acetone +. No diacetic acid. Radials thickened. Dorsalis pedis pulse felt.

Routine conservative treatment. Operative procedures: Curettage of sinus, Nov. 6, 1910. Marked local reaction after curettage rapidly relieved by baking. Duration of treatment, two months. Result, cured.

Patient was last seen Jan. 25, 1913. For about a year and a half he has had plantar ulcers on both feet. Third toe, left foot removed July 31, 1911. See Case 13.

Case 3.—Oct. 14, 1910: C. T., man, aged 56, patient of Dr. F. Kammerer. Duration of diabetes unknown. Local trouble two weeks. Examination: Dry gangrene of the fifth toe, left foot. General condition good.

Sugar, 1.8 per cent. Acetone, trace. No diacetic acid. Radials thickened. No popliteal, posterior tibial, or dorsalis pedis pulse felt.

Routine conservative treatment, except baking. Operative procedures: Gangrenous toe removed at phalangeal metatarsal joint after demarcation, Nov. 8, 1910. Duration of treatment, three months. Result, cured.

Patient last seen, Dec. 19, 1912. He has had no further trouble with his left foot. See Case 17.

Case 4.—Nov. 28, 1910: D. S., man, aged 58. Duration of diabetes unknown; local trouble, six months. Examination: Moist gangrenous area at the phalangeal joint of the great toe, left foot, and necrosis of the joint. Amputation of the leg had been advised by a very competent surgeon. General condition good. Excruciating pains present in the leg.

Sugar, 1.2 per cent. No acetone or diacetic acid. Radials thickened. No popliteal pulse felt.

Routine conservative treatment. Operative procedures: Disarticulation of great toe at phalangeal metatarsal joint, Nov. 29, 1910. Curettage of sinus and resection of head of metatarsal with removal of sesamoid bone in flexor tendon, Feb. 15, 1911. Counter-incision on plantar surface over distal extremity of metatarsal, March 10, 1911. Most decided effect from the baking and bathing. Pains were relieved; vascularity of the parts definitely increased as was noted at the second operation and the toe-nails changed in character (See Illustration). Duration of treatment, six months. Result, cure.

Patient last seen, Jan. 28, 1912. No further trouble with left foot. See Case 9.

Case 5.—Dec. 19, 1910: P. G., male, aged 64. Diabetes, two years; local trouble, two weeks. Examination: Dry gangrene of the second toe, left foot, encroaching on the great and third toes and without definite line of demarcation. Marked redness and swelling of the dorsum of the foot. Gangrene continued to extend to the great toe and upward on the plantar and dorsal surfaces of the foot. General condition good. With the extension of the gangrene, septic rises of temperature to 102.5 F. Plantar ulcer on the right foot.

Sugar, 1.8 per cent. No acetone or diacetic acid. Radials slightly thickened. No popliteal, posterior tibial, or dorsalis pedis pulse felt.

Routine conservative treatment. Operative procedures: Disarticulation of second toe at phalangeal metatarsal joint after demarcation with plantar counter-incision, Dec. 30, 1910. Extension of counter-incision, Jan. 10 and Jan. 13, 1911. Circular amputation of leg at junction of upper and middle thirds, Jan. 17, 1911. Some sloughing of the skin and fascia, in spite of the fact that the flaps bled freely. Slight transient delirium and acetonuria after amputation. Duration of treatment, four months. Result, cured.

The plantar ulcer on the right foot healed under the routine conservative treatment. It has reopened occasionally since, but always heals with rest, baking and bathing. Patient has an artificial limb, walks well and attends to business. He has had no further trouble with left leg.

Patient was last seen Jan. 19, 1913. The stump was in excellent condition. The plantar ulcer on the right foot was healed. For two weeks he has had a small ulcer over the distal phalangeal joint, second toe, right foot. This was evidently caused by pressure from an ill-fitting shoe and has been steadily improving under rest, baking and bathing.

Case 6.—April 5, 1911: A. R., woman, aged 53. Duration of diabetes unknown; local trouble, six weeks. Examination: Moist gangrene of the third, fourth and fifth toes and dorsum of the right foot as far as the ankle. Marked redness and swelling beyond the gangrenous area. Gangrene continued to extend without tendency to demarcation. General condition very poor. Temperature 102 F. Pulse from 102 to 120 per minute.

Sugar, 2.5 to 5.5 per cent. Acetone ++. Diacetic acid ++ Radials were thickened. No popliteal pulse felt. Blood-pressure 160 mm. Hg.

Routine conservative treatment. Operative procedures: Amputation in thigh at junction of middle and lower thirds, April 12, 1911. There was marked atheroma of the femoral artery and extensive sloughing of the flaps followed amputation. Subcutaneous abscesses developed after a hypodermoclysis of 5 per cent. sodium bicarbonate solution. An intravenous infusion of 2.5 per cent. sodium bicarbonate solution was followed by an alarming, but temporary collapse. The patient suffered from extreme polyuria, excreting as much as 7,000 c.c. daily. She finally developed an extensive decubitus and her mind became clouded.

Duration of treatment, two and a quarter months. Result death, June 14, 1911. Direct causes of death right lobar pneumonia, diabetic coma.

Case 7.—June 22, 1911: J. W., patient of Dr. J. F. Erdmann, woman, aged 64. Diabetes fourteen years; local trouble, six months. Examination: Large moist gangrenous area on the inner surface of the left foot starting from the heel and involving the flexor tendon of the great toe and plantar region. Numerous discharging sinuses on the plantar surface of the metatarsal region of the great toe. Gangrene extended upward along the tibialis posticus tendon. General condition very poor. High temperatures with the extension of the phlegmon upward.

Sugar, 3 to 5 per cent. Acetone ++. Diacetic acid +. Radials slightly thickened. No popliteal pulse felt.

Routine conservative treatment. Operative procedures: Repeated incisions in plantar region and along tibialis posticus tendon.

At first there seemed to be some improvement in the local condition. The sloughs separated and the granulations assumed a healthy appearance. Baking was discontinued because it was too exhausting. The general condition was too bad to warrant amputation.

Duration of treatment, one month. Result death, July 23, 1911. Direct cause of death, diabetic coma.

Case 8.—July 31, 1911: E. G., patient of Dr. F. Kammerer. Diabetes ten years; local trouble, two weeks. Examination: Extensive moist gangrene of the fifth toe with a phlegmon of the plantar and dorsal surfaces of right foot. General condition very poor. Temperature 103 F. Pulse 96 per minute. Occasional delirium.

Sugar, 3 per cent. Acetone ++. Diacetic acid ++. Radials thickened. No popliteal pulse felt.

Routine conservative treatment. Operative procedures: Extensive incisions of dorsal and plantar phlegmons, July 31, 1911. Removal of gangrenous toe after demarcation, Aug. 22, 1911. New counter-incision in plantar region connected with dorsal incision, Aug. 30, 1911.

Baking was discontinued because it was too exhausting.

At first there seemed little prospect of saving the leg or even the life of the patient, but there was a prompt and remarkable result from the conservative therapy.

Duration of treatment two and a half months. Result, cure.

Patient was last seen Aug. 29, 1912. She has been quite well, except for a small pressure ulcer on the fourth toe, right foot, which she has had for a few days. A written communication dated Jan. 14, 1913, states that she is very well.

Case 9.—Nov. 30, 1911: D. S. (same patient as Patient 4), man, aged 59. Diabetes, at least one year; local trouble, one day. Examination: Moist gangrenous ulcer at second phalangeal joint, fifth toe, right foot. Necrosis of the joint and no well-defined demarcation. Gangrene threatened to extend. General condition good.

Sugar, 1 per cent. No acetone or diacetic acid. Radials thickened. No popliteal pulse felt.

Routine conservative treatment. Operative procedures: Amputation of toe at phalangeal metatarsal joint with resection of head of metatarsal, Jan. 24, 1912.

There was a sudden rise of temperature to 104.5 F. with a pulse of 120 per minute twenty-four hours after operation. The flaps became gangrenous and there was a lymphangitis running up the leg. The patient became comatose and higher amputation was out of the question on account of the general condition.

Duration of treatment, two months. Result death, Jan. 28, 1912. Direct cause of death sepsis.

Case 10.—March 25, 1912: A. P., woman, aged 64. Diabetes eight years; local trouble five weeks. Examination: Moist gangrenous area, 1.5 cm. in diameter, on the outer side of the fifth toe, left foot, at the phalangeal metatarsal joint. General condition good. Severe pains in the leg.

Sugar, 0.7 to 1.5 per cent. No acetone or diacetic acid. Radials slightly thickened. Dorsalis pedis pulse felt.

Routine conservative treatment. Duration of treatment, two months. Result, cure.

Patient was last seen April 5, 1912. She has a small, clean granulating wound, which is rapidly healing, and her pains are relieved.

Case 11.—April 10, 1912: M. D., woman, aged 54. Duration of diabetes unknown; local trouble, four weeks. Examination: Moist gangrene of the distal phalanx of the great toe, right foot. Extensive phlegmon of the dorsum of the foot along the extensor tendon of the great toe. No well-defined demarcation. General condition poor. Temperature 100.8 F. Pulse 120 per minute.

Sugar, 2.2 to 3.8 per cent. Acetone ++. Diacetic acid +. Radials soft. Popliteal pulse felt. No posterior tibial or dorsalis pedis pulse felt. Blood-pressure, 133 mm. Hg.

Routine conservative treatment. Operative procedures: Demarcated sloughs with distal phalanx and extensor tendon removed. Removal of end of proximal phalanx to permit skin flaps to cover toe, June 15, 1912.

There was a most remarkable result from the conservative treatment. Though the loss of the limb was threatened, the gangrenous tissue quickly separated and the wound cleaned up promptly.

Duration of treatment three and a half months. Result, cure.

Patient was last seen, July 29, 1912. A communication from the patient, dated Dec. 28, 1912, states that about four and a half months previously, the second toe on the right foot showed an open wound which healed in three weeks. She has been quite well since.

CASE 12.—May 25, 1912: E. A., man, aged 40. Duration of diabetes unknown; local trouble, one month. Examination: Moist gangrene of the fifth toe, right foot, with extension along the flexor tendon and sinus formation on the plantar surface of the foot. Severe phlegmon with lymphangitis of the dorsum of the foot extending half way up the leg. Inguinal glands swollen and tender. General condition very poor. Marked evidences of sepsis. Temperature 104 F. Pulse 110 per minute.

Sugar, 0.25 per cent. No acetone or diacetic acid. Radials soft. Popliteal, posterior tibial, and dorsalis pedis pulse felt. Blood-pressure, 145 mm. Hg.

Routine conservative treatment. Operative procedures: Removal of gangrenous distal phalanx of fifth toe after demarcation, June 29, 1912. Sinus openings on plantar surfaces connected and tendon slough were removed, July 2, 1912.

There was a most remarkable result of conservative therapy. At first there seemed little prospect of saving the patient's life with anything less than a thigh amputation. After a few days of baking and bathing, the phlegmon, lymphangitis, and adenitis subsided, the temperature dropped to normal and remained so, and there was a rapid demarcation of the gangrene.

Duration of treatment, two months. Result, cure. Patient last seen, July 31, 1912. Wound entirely healed.

CASE 13.—June 8, 1912: J. K. (same patient at Patient 2), man, aged 59. Diabetes five years; local trouble, one day. Examination: Beginning gangrene of the fifth toe, right foot, with cellulitis of the dorsum of the foot and necrosis of the proximal phalangeal joint. General condition fair.

Sugar, 3 per cent. Acetone +. No diacetic acid. Radials rigid. Dorsalis pedis pulse felt. Blood-pressure, 210 mm. Hg.

Routine conservative treatment, except baking. Operative procedures: Removal of necrotic bone from phalangeal joint, June 15, 1912. Gangrenous process promptly arrested by rest and bathing. Duration of treatment, one month. Result, cure.

Patient last seen, Jan. 25, 1913. For about a year and a half he has had plantar ulcers on both feet. The patient is a waiter and, owing to the condition of his personal affairs, is compelled to work most of the time. The more or less continuous standing on his feet prevents the ulcers from healing.[1]

CASE 14.—June 12, 1912: E. R., man, aged 59. Diabetes two years; local trouble, six months. Examination: Extensive gangrenous ulcer on the outer side of the right foot. Fifth toe and its metatarsal already removed. Marked edema of the foot and ankle. General condition fair. Occasional rises of temperature as high as 102.5 F.

Sugar, 1 to 2 per cent. Acetone, trace. No diacetic acid. Radials slightly thickened. Popliteal pulse felt. No posterior tibial or dorsalis pedis pulse felt. Blood-pressure, 150 mm. Hg.

Routine conservative treatment. Operative procedures: Curettage of slough, Aug. 22, 1912.

At first there was some improvement under the conservative treatment. The sloughs separated partially and the granulations became cleaner. There was, however, no tendency toward healing and amputation below the knee was advised, but consent was refused.

Duration of treatment, two and a half months. No improvement.

Patient was last seen, Sept. 1, 1912. There was little change in the condition of the wound.

CASE 15.—June 28, 1912: C. S., woman, aged 77. Duration of diabetes unknown; local trouble, six months. Examination: Moist gangrene of the great toe, left foot. Gangrene well demarcated. Edema of the dorsum of the foot. General condition very poor. Advanced stage of senility present; also myocarditis and marked emphysema. Temperature 100.8 F. Severe pain in the foot. After two weeks development of septic symptoms with rises of temperature to 102 F.

Sugar, 1 per cent. No acetone or diacetic acid. Radials thickened. Popliteal and posterior tibial pulse felt. No dorsalis pedis pulse felt. Blood-pressure, 140 mm. Hg.

Routine conservative treatment. No local improvement; amputation out of the question on account of the patient's general condition. Patient so weak that it was necessary to discontinue the baking. Gradual decline of strength. Duration of treatment, one month. Result, death, July 28, 1912. Direct causes of death, senility, bronchopneumonia, pulmonary edema.

CASE 16.—July 6, 1912: J. K., aged 63. Duration of diabetes unknown; local trouble, six weeks. Examination: On the right foot a beginning gangrene of the great and second toe and a moist gangrene of the third toe. Gangrenous phlegmon, which had been incised, extending to the dorsum of the foot. Foul, purulent discharge from the wound. On the left foot a gangrenous ulcer on the outer side of the fifth toe. Moist gangrene of the inner side of the great toe. Foot edematous; another gangrenous ulcer over the internal malleolus. General condition poor. Patient very feeble. Temperature 102 F. Pulse 96 per minute.

Sugar, 0.3 to 0.6 per cent. No acetone or diacetic acid. Radials not thickened. Popliteal, posterior tibial, and dorsalis pedis pulse felt. Blood-pressure, 141 mm. Hg.

Routine conservative treatment. Operative procedures: Amputation of third toe, right foot, after demarcation; incision of dorsal phlegmon, right foot, and plantar phlegmon, left foot, July 22, 1912. No tendency toward healing. Amputation of one or both legs out of the question on account of the patient's general condition. Development of marked septic symptoms with chill and rise of temperature to 103 F. Duration of treatment, one month. Result death, Aug. 10, 1912. Direct causes of death, sepsis, diabetic coma.

CASE 17.—Oct. 5, 1912: C. T. (same patient as Patient 3), man, aged 58. Diabetes at least two years; local trouble, one week. Examination: Moist gangrene of the great toe, right foot, with involvement later of the second, third and fourth toes and an advancing phlegmon of the dorsal and plantar regions. General condition fair. Temperature 104 F. Pulse 106 per minute.

Sugar, 0.3 to 0.9 per cent. Acetone, trace. Diacetic acid, trace. Radials thickened. No popliteal, posterior tibial, or dorsalis pedis pulse felt. Blood-pressure, 200 mm. Hg.

Routine conservative treatment. Operative procedures: Circular amputation of leg at junction of upper and middle thirds, Oct. 22, 1912.

At the beginning of the conservative treatment the temperature dropped to normal and remained so for one week. The gangrene and phlegmon then advanced and there were evening rises of temperature as high as 102 F. At the amputation it was found that the vessels were calcareous, but they bled freely. There was some sloughing of the flaps, but the demarcation was prompt and healing was rapid.

Duration of the treatment two and a half months. Result, cure

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[1] Since this paper was put in type this patient has again come under observation. On Feb. 10, 1913, he suddenly developed a gangrenous ulcer on the outer side of the plantar surface of the right foot. Within twenty-four hours there was a marked phlegmon of the ankle with a lymphangitis running up the leg. His temperature was 103.6 F. He was at once put to bed and the routine conservative treatment given. For a few days it seemed as if the limb were lost. On February 13 and on February 15 incisions were made into the infected cellular tissue at the ankle. The process gradually subsided and to-day (March 17) the patient is practically cured. The gangrenous ulcer is entirely healed, and the wounds at the ankle are small, superficial, and covered with healthy granulations. Incidentally the chronic perforating ulcers on both feet, which had been open for a year and a half as long as the patient was working, closed completely after one month's rest in bed.

Patient was last seen Dec. 12, 1912. There is a small, clean granulating wound in the center of the stump which is rapidly healing. The patient has already been measured for an artificial leg.

Reviewing the material to which I have applied the conservative method of treatment, it will be seen that in the seventeen cases, in three of which (Cases 9, 13, 17) the second foot of the same patient was affected, five patients died, a mortality of only about 29 per cent. One patient was not improved, but the remaining eleven were cured.

Four of the fatal cases (Cases 6, 7, 15, 16) were more or less hopeless from the beginning. In the only case (Case 6) in which a thigh amputation seemed indicated and was performed, the patient died two months after operation. Patients 7, 15 and 16 were in such a grave condition when they came under observation that any form of radical operation would have been out of the question and the fatal outcome would surely have been hastened by amputation of the thigh, or even of the leg.

In Case 9 I feel that an error in judgment was made. I relied on the fact that the same patient (Case 4) had made an excellent recovery after amputation of the great toe of the other foot and I believed that his general resistance and local condition were quite as good as they had been when that foot was treated over a year previously. The result proved that I was too optimistic and, if I had continued with ultraconservative methods and waited for further demarcation before amputating the fifth toe, I feel that I might have been able to record another recovery. The case was of the sluggish, chronic, non-progressive type, and only became acute after the operative interference. Aside from suffering severe pain and not sleeping the patient was in good condition and there would have been nothing lost by waiting, except the discomfort to the patient and the time I hoped to save. I think that the failure in this case merely serves to emphasize the importance of the fact that one cannot be too conservative and that much more harm can be done by doing too much than by doing too little.

The causes of death in the five fatal cases were pneumonia, sepsis and diabetic coma. Death was produced either by one of these conditions alone or by coma following one of the first two.

Of the eleven patients who recovered, nine (Cases 1, 2, 3, 4, 8, 10, 11, 12, 13) were cured with either no operative procedure at all or with more or less minor operations such as the incision of a phlegmon or the removal of a gangrenous toe. These patients were all finally restored to health with no more mutilation of the extremity than the loss of a toe or a portion of one. Three of these cases (Cases 8, 11, 12) showed most astonishing results from treatment. They were all very acute cases with high temperature and advancing gangrene with phlegmon. In Cases 8 and 11 there was a high percentage of sugar with large quantities of acetone and diacetic acid. In each instance it seemed as if there was not a chance in the world of saving the limb, while in one (Case 8) the patient's life was in imminent peril. I am certain that a few years ago we would have promptly performed a thigh amputation in these three cases and would have lost not only the limb, but probably the patient as well in each instance. After a short period of routine treatment the temperature dropped, the cellulitis subsided, the gangrene demarcated and the cases went on to uneventful recovery without radical operative interference.

Case 4 is worthy of special mention. This was a gangrene of the chronic type that had resisted treatment for six months. A very competent and conscientious surgeon finally advised radical amputation to which the patient refused to give his consent. I finally removed the gangrenous toe, instituted the regular treatment and the case went on to uneventful recovery. I shall refer later to the subsidence of the excruciating pains from which the patient suffered.

In two cases that ended in cure (Cases 5, 17) I was forced, on account of rapidly advancing gangrene with cellulitis and septic symptoms, to amputate the leg at the junction of the upper and middle thirds. Each of these patients has a useful stump and a movable knee.

The average duration of treatment was two and three quarters months.

As a rule, though by no means invariably, when the acute symptoms subsided the sugar percentage dropped considerably and the acetone and diacetic acid disappeared from the urine, if these had been present.

It must be admitted that there is a decided tendency to recurrence of the trouble with the extremities after the patient is cured, even when careful prophylaxis is observed. Still, this may manifest itself only in the shape of an occasional ulceration, which is not very malignant and which, if the foot is placed at rest and properly attended to, will heal more or less promptly. At any rate the first case has been comparatively well for over two years and not one of the cured patients has as yet had further serious trouble with that extremity.

One patient (Case 14) left the hospital against advice, unimproved. He had originally come in for an amputation, but was persuaded to submit to conservative therapy. At first there was some improvement, but after two and a half months it became evident that the gangrenous ulcer would not heal and amputation below the knee was advised. The patient, however, now withheld his consent. Judging from previous experience, I am convinced that, had this operation been performed, the patient would undoubtedly have recovered and I might have been able to add another cure to my report.

Unfortunately the series to which I have applied these ultraconservative measures has been limited to seventeen cases. I confess that the number is not sufficient from which to draw any broad general conclusions or to lay down any definite laws. Still no attempt at selection of the cases was made and the results as compared with those that are the rule when radical therapy has been resorted to must strike forcibly any one who has had any experience with these cases. It might be argued that amputation is required only in the really serious acute cases and that these cases are the ones which give unfavorable prognosis. Yet in former years, amputation was apparently indicated in almost every case and from my experience then, all cases gave an unsatisfactory outlook. Further a good percentage of my cases were very severe and in these even a goodly proportion of patients recovered. Though it is possible that I have been unusually fortunate in encountering a series in which there were a number of comparatively benign cases, I confidently believe that if this conservatism in the treatment of diabetic gangrene is adopted, there will be a decided difference in our results.

Returning to the three cardinal principles enumerated above, permit me on the basis of the clinical data presented, to go more into detail in their individual application.

TREATMENT OF DIABETES AND PROPHYLAXIS AGAINST COMPLICATIONS

In regard to the systemic treatment of the diabetes and the prophylaxis against the development of dangerous complications, especially coma, I have little new to offer. This subject belongs more to the province of the internist and the specialist in metabolic diseases than to that of the surgeon. The best we can do is to adopt the rules laid down by von Noorden and others, the essential feature being the antidiabetic dietary regimen. Still there are certain practical points that are of special surgical interest.

The twenty-four-hour urine should be examined daily. It is especially important that specimens of the full twenty-four-hour urine be used, as the result of the examination of individual voidings may be very misleading.

If there is any evidence of an impending coma, such as mental sluggishness or delirium, or if the urine shows the presence of acetone bodies, the strict antidiabetic diet must be relaxed. The amount of sugar in the urine can be disregarded entirely. I give a cupful of oatmeal gruel twice a day to these patients, allow them a little bread and, to vary the monotony, a baked potato or some boiled rice occasionally.

As far as medication is concerned, I have no great faith in any of the various drugs recommended. When there is pain, I administer codein or morphin liberally. As to the use of alkalies, I regularly administer sodium bicarbonate in large doses. It must not be given in such large quantities that gastric disturbances result. A few teaspoonfuls in Vichy every two hours is about the limit of toleration. If given by rectum it is usually not retained. If given by hypodermoclysis, even weak solutions are irritating, and I have seen ugly phlegmons result (Case 6). By intravenous infusion large quantities could be given, but it should not be used in this manner in stronger solutions than 1 to 2 per cent. I have seen an alarming collapse after the use of a 2.5 per cent. solution (Case 6). The sodium bicarbonate should be added to a filtered and freshly prepared Locke's solution made from recently distilled water and pure chemicals. I am by no means convinced that this alkaline therapy is of much value. At times, I have felt that a coma was avoided by the use of sodium bicarbonate (Case 5 after an amputation), though I have never seen any direct changes in the urine as a result. I have never seen the drug benefit the patient in the slightest degree after coma has once been established.

I believe that chloroform should never and ether only very rarely be used in operations for diabetic gangrene. Nitrous oxid or nitrous oxid-oxygen anesthesia should certainly be the method of choice. This form of anesthesia answers the purposes in almost every case. Should it fail in exceptional instances, a small quantity of ether might be used. A water-bed, if necessary, bathing the back with alcohol, heel-cushions, etc., should be resorted to, to prevent bed-sores. Deep breathing should be encouraged, or better still a set of James' bottles should be used to ward off a pneumonia.

IMPROVEMENT OF CIRCULATION

An attempt to improve the circulation in the extremity narrows itself down to the production of an active hyperemia by Bier's method. There are two means at our disposal, namely, hot baths and dry hot air. For the hot bathing sterile physiologic saline solution at a temperature of about 110 F. is used for a half hour, generally twice daily. If possible the entire limb should be immersed.

For the application of hot air we have been using the Tyrnauer electric oven at the German Hospital. The extremity must be very carefully wrapped and the entire limb should be inserted into a suitable oven. The oven should be warm when the treatment begins so that the patient is not put to the unnecessary strain of waiting in an uncomfortable position till sufficient heat is generated. It is advisable to accustom the patient gradually to the treatment by brief applications at a lower temperature. As a rule the maximum duration of the treatment should be half an hour and the highest temperature from 180 to 200 F. I must caution against too high a degree of heat. This is of no value and exposes the susceptible limb to burns, which necessarily should be avoided.

Though the expensive electric ovens may be rented in large cities, in private practice, I have found the Holzborn gas apparatus very satisfactory. It is inexpensive and answers the purpose admirably. If the patients stand the treatment I give a baking followed by a bathing twice a day. For some patients this is too much of an exertion and must be reduced. Some patients cannot stand the baking at all. In these cases we must be content with the less strenuous bathing.

That this hyperemic treatment does actually improve the circulation I am convinced. I have had very definite evidence of this in several cases. The most marked example is in Case 4. In the first place, at the first operation, before I began the hyperemic treatment, when I amputated the great toe, the flaps were absolutely bloodless. It was as if I were using an Esmarch bandage. At the second operation after eleven weeks of hyperemia, the parts were not only not anemic, but they bled very freely. An examination of the illustration will show a distinct division into two parts of the remaining toenails in this case. This change in the character of the nails dates to the beginning of the effects of the hyperemia. The nails, which had been brown, dry and brittle, became pink and pliable, showing that there had been a definite change for the better in their nutrition. Then the coldness of the extremity was no longer so apparent. With this direct objective evidence in the improvement of the circulation there was also a marked subjective change. The patient said that the foot felt warm. Most striking, however, was the gradual and eventually total cessation of the excruciating pains in the foot and leg due to the ischemia.

In Cases 5 and 17, in which I was finally forced to perform an amputation at the junction of the upper and middle thirds of the leg, the patients had had hyperemic treatment for four and two and a half weeks, respectively, before the amputation and the operations were very bloody. They were performed without the use of an Esmarch bandage. I firmly believe that the previous treatment with active hyperemia in these cases, while it did not save the feet, nevertheless helped to assure the success of the low amputation and hastened the healing process.

In most of the other cases, the formation of distinct lines of demarcation was noted soon after the beginning of the hyperemic treatment, the gangrenous or phlegmonous processes were promptly arrested, sloughing of the necrotic tissue was hastened and the granulations in the unaffected area showed an increased vitality. These granulations lost their pale, flabby character and showed a more marked tendency to bleed when touched. Just how this hyperemia does improve the circulation

I am not prepared to say at the present time. I believe that the most generally accepted theory is that this is due to the repeated dilatation of the superficial capillaries as a result of the application of the heat, and a corresponding reduction of the peripheral resistance to the circulation. I believe that the actual destructive and inhibiting effect of the heat on the bacteria is also no unimportant factor in limiting the infectious process.

A word of warning against the production of passive hyperemia by the application of the elastic bandage! Some men have used the Bier treatment in these cases in this form. Just as much as the active hyperemia is indicated here, just so much is the passive form contraindicated. Its use is not only illogical, but dangerous, for it adds to the anemic limb a venous congestion and increases the difficulties with which the arterial circulation has to contend.

On general principles, I administer sodium or potassium iodid on account of their absorbent qualities, and nitroglycerin as an arterial dilator.

TREATMENT OF LOCAL INFECTION

The greatest individualizing must necessarily be practiced in the treatment of the local infection on rational general surgical and aseptic principles. I shall attempt to outline in a general way how a typical case should be handled. The patients should be kept at absolute rest and the strictest asepsis should be observed in the treatment of the affected parts. They should be constantly dressed with compresses saturated with a sterile physiologic salt solution. Antiseptics should be avoided because of their devitalizing properties. The dressings should be kept moistened; this also tends to produce a hyperemia, but I prefer not to use an impervious rubber tissue covering on account of the maceration that this produces. Tight bandaging should be avoided. The dressings should be changed at least twice a day. As a routine measure, I would recommend baking the extremity with the dressings on, allowing the dressings to soak off in the bath and then reapplying fresh dressings twice daily. All traumatism should be carefully avoided. The use of hydrogen peroxid is to be discouraged under ordinary circumstances, as it tends to dissect into unaffected parts. No attempt should be made to remove the sloughs forcibly. One should wait until the gangrenous tissue is well loosened and can be easily pulled off with a forceps. The whole method of treatment should be as expectant as possible. Wait, wherever possible, for a complete demarcation. The less active and energetic measures one uses, the less liability will there be to an extension of the phlegmon or gangrene.

As is well known, the tendency of the gangrenous and phelgmonous process is to extend first along the tendons and then along the muscle and fascial planes. Although inactivity is to be recommended, retention must not be permitted to occur, and if a pocket forms, or if there is an undermining with deep sloughing, these must be widely opened. On general principles, I object to local anesthesia, as the infiltration of the tissues tends to impair their nutrition, and I never use an Esmarch bandage.

When a definite line of demarcation has formed, the affected tissues may readily be loosened and removed with a few snips of a curved scissors. Usually no anesthesia is required. One should avoid cutting through non-affected tissue near the gangrene. If bony sequestra have loosened, they should be picked out with the forceps, but the sharp curet should not be utilized. Should the gangrene show progress and no line of demarcation form and should the phlegmon threaten to render the patient septic, notwithstanding extensive and repeated incisions, a more radical amputation obviously becomes imperative. When this is the case, I feel that an amputation just as far beyond the affected area as will insure operation in healthy tissue and at the same time give us a suitable amputation site—and no further—will answer the purposes quite as satisfactorily as the indiscriminate high thigh amputation.

Of course under these circumstances, reamputation may become necessary, and the latter type of amputation might eventually be required, but it appears to me that there is no urgency in taking this step—that the results will be just as good, as when this is done primarily, if not better and certainly no worse, and many a knee-joint will be saved that might have been unnecessarily sacrificed.

That the stump in an amputation above the knee is as useful functionally as one below the knee is an idea unsupported by a comparison of the two types fitted with artificial limbs and by the opinions of experts in the manufacture of these protheses. A point that is of vital importance is that the nearer one approaches the heart, the more of a shock to the system is the operation itself, and it behooves us to try first the least damaging and mutilating procedure. I think that the presence or absence of the popliteal pulse is not a matter of great significance. Deep-seated, rigid and calcareous vessels, though their lumens are not entirely obstructed, will give no pulsation. In Cases 5 and 17, there was absolutely no popliteal pulsation and yet the anterior and posterior tibial vessels bled freely. Even if the popliteal and anterior and posterior tibial vessels are entirely obstructed and the flaps practically bloodless, healing may take place without further gangrene. I have seen this phenomenon in a recent case of presenile gangrene and I believe that the same can occur in the diabetic type. As far as the Moszkowicz test to determine the site of amputation is concerned, my experience has taught me that one can place as little reliance on this as on the question of popliteal pulsation. In this test the lower limit of the secondary hyperemia occurring after the removal of an Esmarch bandage, which has been tightly applied to the thigh for a few minutes, is taken as the proper site for amputation.

The reason for the failure of this test in many cases will be clearly seen when it is understood, as I shall point out, that the elastic bandage will often not compress the atheromatous femoral artery and produce the primary anemia of the limb, so that there will be secondary hyperemia, although the flow of blood through the vessel may be quite considerable.

The presence of the acetone bodies in the urine has occasionally been regarded as an indication for amputation. A study of my cases shows that this factor may be disregarded entirely in this connection.

A word or two in regard to the technic of amputation. As emphasized above, it should be performed under nitrous oxid or nitrous oxid-oxygen anesthesia. The Esmarch bandage should not be utilized. Not only does the bandage produce unnecessary traumatism and further interference, if only temporary, with the circulation of an already poorly nourished limb, but it is usually an utterly useless step. The bandage will often have absolutely no effect as far as compressing the rigid artery and controlling the hemorrhage is concerned. One might just as well try to stop a leak in an iron waterpipe by tying a rubber band around the pipe above the leak, as to control the bleeding with an Esmarch bandage in the majority of amputations for diabetic gangrene. On the contrary, the bleeding is often intensified because a venous stasis is produced without an arterial obstruction. These are no mere theoretical inferences. I have repeatedly seen practical confirmation of these statements.

The amputation should be done as rapidly and as simply as possible and with a minimum amount of traumatism to the tissues. Ordinary circular flaps should always be used as they insure the best possible nutrition. One should avoid osteoplastic operations and above all the flaps should be left wide open and the wound lightly tamponed with gauze. If this last step is observed the flaps are not subjected to the tension of sutures or adhesive strips and the possibility of septic retention following the sloughing of the skin and fascia, which occurs in almost every case, is eliminated. Finally, the dressing should be loosely applied.

Dr. Garbat has suggested to me that autogenous vaccination might hasten the separation of the sloughs and healing. Although I regularly use the autogenous vaccine in diabetic carbuncle I have had no personal experience with it in the infections resulting from gangrene of the extremity. I believe that the suggestion of Dr. Garbat is worthy of trial and I shall make use of it at the next opportunity. Judging from my experience in diabetic carbuncle, one should be careful in vaccinating the diabetic patient and not use too high a dosage. The diabetic is very susceptible and I have seen very severe local reactions follow the injection of moderately high doses. I have even had a suppuration at the site of injection after the inoculation of 400,000,000 staphylococci.

It might be in place here to emphasize the fact that prophylactic measures are of the utmost importance. The same rules apply to all cases of diabetes with the slightest tendency to circulatory disturbances of the lower extremity before the development of any real lesion, as apply to those patients who really have a gangrene or an infection resulting therefrom. Above all the chiropodist should be shunned. Many patients date the origin of their active disturbance to the clumsy and septic manipulations of a pedicure. Garters and stiff, tight shoes should not be worn and all pressure must be avoided. The feet must be kept scrupulously clean. They should be bathed and powdered religiously. Extreme care should be exercised in not injuring them and in not permitting them to become frost-bitten. An insignificant scratch, a slight abrasion should receive competent surgical attention. Ulcers, corns, ingrown toe-nails, bunions, etc., should be treated by the surgeon.

The methods of producing active hyperemia detailed above should be begun before the gangrene sets in and continued after the patient is cured so as to prevent a recurrence.

I wish to say one word in conclusion relative to the effect of this method of treatment in other types of gangrene. I have applied it to cases of presenile, senile and embolic gangrene, but the results are by no means as satisfactory. Although occasionally demarcation is stimulated and the patient escapes without radical operation, these cases, as a rule, come to amputation, at least of the leg. I presume that the reason for the relative failure of the conservative treatment in cases that are not diabetic is due to the fact that the lesion is solely a circulatory one and that the circulatory disturbances are too extreme to be influenced. In diabetic gangrene, while the circulatory lesion is an important one, it is usually not of such a complete nature and the systemic disease is at least partially responsible for the local trouble. Hence there is a chance of controlling the process in diabetes by improving the general condition, increasing the circulation in the extremity, and treating the wound itself according to the principles of aseptic surgery.

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ADVICE TO PATIENTS ON LEAVING THE HOSPITAL AFTER SURGICAL OPERATIONS*

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Comparatively little seems to have been written on this subject, in spite of its importance. The character of the advice will of course depend largely on the nature of the operation and of the condition for which it was done; but there are certain general considerations which will apply to the majority of cases unless some special contra-indication exists.

It was formerly customary to keep surgical patients in the hospital, and even in bed, for what is now known to be an unnecessarily long time, thus adding to their expenditures, decreasing their incomes, and consuming time which could otherwise be more profitably employed. The sum total of the loss to the community from this source was enormous. Gradually we have learned to reduce this loss of time, to the advantage of the patients and to the general advancement of surgery.

Surgical patients on leaving the hospital generally pass from under the observation of the operator, especially those living at a distance. Unless the surgeon takes the trouble to advise them, their future mental and physical welfare will depend on their own ideas and on the advice of those around them, including perhaps their family physician. Most patients have a very hazy conception regarding their conduct, their actions often being largely governed by groundless fears and traditions and by the advice of ignorant or oversolicitous friends. Even the family physician, if consulted, is not always a reliable guide, because of unfamiliarity with surgical questions or of lack of knowledge of the individual case. These things are unfortunate, and militate against the prompt and smooth mental and physical recovery which should be the aim of every well-conducted surgical procedure.

To the surgeon all seems simple enough. With his superior knowledge it is difficult for him to realize the fears and uncertainties of the patient suddenly thrown on his own ignorant resources; and hence his instructions, if he gives any, are too often hasty, meager and but imperfectly understood. I am convinced that the whole subject deserves more attention than has hitherto been accorded it.

The following outline represents my own idea of the situation, which may not accord with those of others, but which will at least serve as a basis for consideration and discussion:

The surgeon should take time to talk over with each patient, before he leaves the hospital, his present condition, his prospects and his future course of action, explaining also, within the bounds of reason and expediency, the exact nature of the operation performed. As abdominal operations are the most frequent, I shall consider the advice to be given in connection with these; most of this advice applies to other surgical procedures also.

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* Read before the Denver City and County Medical Society, Feb. 18, 1913.

The patient should be told, when this can conscientiously be done, that the operation was successful and that everything necessary was accomplished. It should also be explained, when true, that the abdomen was explored wherever there was likelihood of anything being wrong and that everything was in perfect condition. This is an *important point for the patient's future peace* of mind, and hence, according to the most modern principles of surgery, such exploration should be done when practicable. It is well to make this explanation as emphatic as circumstances will permit, no matter what exception it may be wise to make to relatives and friends. *For instance,* one is usually justified in saying:

"Everything is all right; not only in the region operated on, but in the rest of the abdomen you are in just as good condition as any one else. I know this to be true, because I have examined everything carefully. Even if you feel more or less pain and soreness in the future, *you must not think that they mean anything more than* the natural consequences of a surgical operation.

"You must bear in mind that an operation is a severe injury, just as much as if you had fallen from a horse or had been run over by an automobile. The skin with its many small nerves has been cut, and the muscles separated and more or less strained and bruised, which is certain to produce soreness and stiffness that may persist for a long time, but which mean little and should be disregarded as far as possible. A similar soreness and stiffness would result from severe and unaccustomed physical exertion, such as climbing a mountain, but it would cause no anxiety and you would be sure of its speedy disappearance. The division of nerves in the skin may give rise to various uncomfortable sensations, such as numbness, oversensitiveness and even actual pain in the scar; but these manifestations mean nothing, should be given but little attention, and will surely vanish in the course of time.

"All of these disagreeable symptoms are apt to be more pronounced at night, while you lie quietly in bed, with nothing else to occupy your attention. This is largely owing to the accumulation of gas within the bowels, which presses on the sore places from the inside much as if you pressed on them with your hand from the outside. If you do not bear this in mind you are apt to imagine that some dire calamity is fomenting within you."

In addition to some such talk as the above, it may be stated that the soreness following an operation is likely to occur in periods, brought on perhaps by overexertion, indigestion, barometric changes, etc., but that these spells signify little and should cause no mental uneasiness; that if they are regarded too seriously and with the idea that something is wrong inside, they may increase to such a degree that the patient becomes a nervous, hysterical semi-invalid — a nuisance to herself, to her physician, and to all those who are so unfortunate as to be associated with her. I say *her* because such cases usually occur in women.

The effects of this sort of introspection may advantageously be illustrated by referring to the fact that many medical students develop symptoms of the various diseases which they read of and hear about in their lectures. The patient will also get a better understanding of the situation if she will sit quietly down by herself, hold up her little finger in front of her and look fixedly at it for fifteen minutes, concentrating her whole attention on it. Before the time has expired it is likely that the finger will be the seat of some very peculiar sensations, and there will be a strong tendency to give it a good rubbing. If this is true of a normal finger, how much more must it apply to the seat of an operation, with all the mysterious fears and uncertainties which surround it!

In order further to avoid the evils of introspection, the patient should be cautioned against describing the operation and the hospital experiences to curious friends. In fact the whole matter should be regarded as a more or less disagreeable episode, to be made little of and forgotten as soon as possible. In this connection the Germans have an excellent saying, *Schwamm darüber*—"sponge it out."

Emphasis should be laid on the fact that according to the mental attitude it is possible either quickly to overcome the effects of most operations or to nurse them along indefinitely, and develop a condition of semi-invalidism, by continuously "looking for trouble" and "making mountains out of mole-hills." Assure the patient emphatically that in your opinion she does not belong to this latter class of weak and nervous individuals, who are much to be pitied; but that you feel certain from your observation of her that she will conduct herself with sense and discretion and not allow herself to become hysterical and neurotic. It is often well to add that any nervous symptoms which may have bothered her in the past evidently had a good foundation, but that from now on there can be nothing to prevent her from rapidly regaining her normal equilibrium, and that you can easily see that she is one of those who are always cheerful, energetic and happy if only they have a fair chance.

Patients must be warned against trying to interpret their own symptoms; for even doctors, with their superior knowledge, cannot trust themselves to tell what is going on within their own bodies. Above all, allowance must be made for the advice and statements of friends. There is nearly always some woman who, without appreciating that she is doing harm, will fill the patient's mind with forebodings of disaster, such as the development of a hernia or the return of gall-stones or of a malignant growth. Especially is this true of the woman who opposed the operation and who consequently desires to be able to say "I told you so." Explain that these objectionable pessimists can know but little about the subject, and at best must base their predictions on very few observations; while your own opinion, as the surgeon in the case, is supported by the knowledge gained in operating, as well as by the dictum of the entire medical profession, grounded on years of experience and investigation.

ABDOMINAL SUPPORTERS

Patients are always anxious regarding the character of abdominal supporters and the length of time during which they should be worn. The laity, as well as many physicians, regard them as of so much importance that the surgeon is compelled to give them an undue amount of attention. It should, I think, be explained that these "belts" are really of little service, except as they may confer a sense of security and comfort, or when ptosis exists. If there is a tendency toward rupture it will occur in spite of the belt, a fact that is quite generally recognized among surgeons. There is, however, such a strong prejudice in favor of belts that it would be unwise to advise against their use, for if any trouble should occur the surgeon would undoubtedly be blamed. Moreover most women are in the habit of wearing corsets and would feel uncomfortable without a support of some kind.

Fortunately a proper corset is just as good as a belt, or better. It should be of the long, "straight-front" variety and should be so laced as to push the whole abdomen upward. This may be done by employing two strings, the lower one being laced snugly and tied perhaps half-way up, while the upper one is fastened more loosely. It is neither necessary nor desirable to wear belts or corsets very tight. They should be used for purposes of support only and not for constriction and should never cause discomfort. No pads, bands or stays should ever rest directly on the incision: not only is such pressure useless; but also in recent wounds it may give rise to inflammation and pain, while in older cases it favors atrophy and weakening of the scar. I have often seen much distress caused by the pressure of a reinforcing band or a corset-stay. It should also be made clear that it is unnecessary to wear a supporter of any kind while lying down at night.

DRESSINGS

When patients leave the hospital they are generally still wearing some sort of dressing held in place by a many-tailed bandage. They should be told that this is merely for the purpose of protecting the delicate scar, no virtue being attached to the cotton and gauze, and that the whole thing may soon be removed. Until then it is unnecessary to wear an abdominal supporter, its place being filled by the bandage. When the gauze and cotton are discarded they may be replaced by a folded handkerchief, if the cicatrix is still tender.

It should also be stated that all danger of infection ceases as soon as the wound is healed. If this is not done, those who have had this danger constantly paraded before them while in the hospital may remain uneasy for many weeks, as I have often seen.

CONSTIPATION

Immediately following an operation it is usually necessary to employ cathartics freely, which naturally leads to constipation. If nothing is done to overcome this it may cause permanent impairment of the natural activity of the bowels, requiring a more or less constant use of drugs; hence it is well carefully to advise patients in this regard. There are doubtless many good ways of doing this, but I have found the following method efficient:

1. On awakening in the morning, before getting out of bed, knead the bowels deeply and thoroughly, following the colon, from the cecum to the sigmoid.

2. On arising drink a glass of cold water and take such calisthenics as are permissible under the circumstances, increasing these exercises as convalescence progresses.

3. Eat for breakfast such things as experience has taught are most likely to assist peristalsis—such as fruit and oatmeal.

4. Go to the water-closet as nearly as possible exactly at a stated time, the reason for this being that the bowels are "creatures of habit" and "slaves of suggestion." To those of regular habits the "suggestion" accompanying a certain time and place is sufficient to procure a movement; but if the time is allowed to pass on a few successive occasions, constipation results. Nothing should be allowed to interfere with this regularity, and all mental and physical exertion should, as far as practicable, be postponed until after the visit to the water-closet.

5. Stay in the water-closet for fifteen minutes, by the watch, without straining—just waiting.

6. If the attempt fails, as it often does at first, it will then be necessary to give the bowels some assistance, not with cathartics, because the more cathartics one takes the more one requires, but by the injection of a few ounces of cold water from a fountain syringe, or possibly by the use of a glycerin suppository.

Most cases of ordinary constipation will yield to this régime in a week or two, although some are stubborn enough to require more elaborate methods. Occasionally hormonal, agar, vibratory massage, or even dilatation of the sphincter may be necessary.

DIET

The great majority of patients on leaving the hospital are in condition to resume their ordinary diet, but they are often afraid to do so unless informed of the fact, because they are convinced that some specific diet should follow every operation. The fact is, however, that convalescence if often retarded by a departure from customary habits of eating and drinking, which have become in a measure physiologic necessities.

There are, of course, certain cases requiring special systems of diet, which are often better prescribed by the physician than by the surgeon. For instance, in stomach cases the patient should be given a carefully prepared diet list and cautioned against overeating, while in genito-urinary cases the patients should be advised to drink water freely and avoid alcohol, etc., etc

SOCIAL DUTIES, VISITORS, ETC.

Every operation means more or less nervous and physical strain, not only from the operation itself, but also from the apprehension and sleeplessness which precede and accompany it. The result is a decided loss of energy and resisting-power. Even prolonged rest in bed, without other cause, is productive of considerable weakness. Under these circumstances nothing is more exhausting to a convalescent than a too rapid resumption of social duties. Hence warning should be given against dinners, parties, receptions and theaters, and especially against receiving too many visitors and indulging in prolonged conversations.

As soon as one who has been operated on returns from the hospital, every acquaintance is curious to see the result and hear all about the operation, and the defenseless patient must again and again rehearse the whole experience in all its harrowing details. This is not only exhausting, both nervously and physically (no one knows how exhausting who has not been through it), but it also prevents the mind from getting into other and less morbid and introspective channels. In this connection it may be mentioned that one of the worst things a patient can do on leaving the hospital is to go to the home of a friend. This is nearly always a strain, because it entails certain social exactions which cannot be avoided and which interfere with that relaxation of body, ease of mind and freedom from obligations which are necessary to recuperation.

For all these reasons it is often desirable, when possible, for patients to go away and complete their convalescence in some interesting locality among strangers, surrounded by new scenes and free from the well-meant persecutions of their friends.

REST AND SLEEP

Too much stress cannot be placed on the procuring of sufficient sleep; but unfortunately this is often difficult to get, owing to nervous irritability and social activity. Patients should be instructed to retire early and also to lie down for a short time at least once during the day. They must also be warned against the excessive use of hypnotics, which should never be taken except under the direction of their family physician, because the drug habit is easily acquired under such circumstances and its effects are disastrous.

GOING UP AND DOWN STAIRS, RIDING, ETC.

Most people, for some reason, have an idea that it is harmful for those who have recently been operated on to go up and down stairs. In reality there is no danger in this except the danger of falling, which may, however, be considerable while the patient is still in a weakened condition.

Riding in almost any sort of a conveyance is nearly always permissible, providing the driver is reasonably cautious and the excursion is not too long. Street cars, railroad trains and sea-going vessels are seldom objectionable, although the question of seasickness must be considered. Horseback riding and bicycling must be approached with caution and should not be indulged in for at least a number of weeks, especially in cases of movable kidney or other forms of ptosis.

EXERCISE

This is of much importance and should be encouraged, although it should of course be appropriate and judicious in amount. The patient must be made to understand that no one ever gets strong by resting too much, and that exercise and fresh air within reason are quite necessary to a rapid and satisfactory convalescence. It is especially desirable that the abdominal muscles, weakened and injured by the operation, should be strengthened by carefully graduated calisthenics, beginning with the lightest work, which is cautiously increased until the normal tone is regained. It is better for the patient to do this slowly and carefully than to permit the muscles to remain weak and atrophied until some sudden and unavoidable strain results in serious damage. Massage is often serviceable and should be recommended more often than it is when the means of the patient permit.

RETURNING TO WORK

Most patients desire to know on leaving the hospital how soon they can safely return to their regular occupations. This is difficult to answer because it depends so much on the nature of the work. The tendency has always been to keep people idle too long, which is detrimental to them, physically, mentally and financially, and a loss to the community also. The idea should be to get them back to their avocations as soon as this can be done. It is often better, for instance, to permit a woman to resume within proper limits many of her household duties, rather than to insist that she sit around for weeks or months in enervating and useless inactivity.

In this connection it can be said that most abdominal wounds are as strong at the end of a month or six weeks as they will ever be; and other things being equal, the majority of patients can return even to quite heavy work at that time. If there is a tendency to the formation of a rupture it will come anyhow in spite of any reasonable care, so there is but little object in waiting longer. In appendix operations done with the gridiron incision the time of probation may still further be curtailed, even to so short a period as three weeks in some instances. In cases of movable kidney the wait must be longer—say six to eight weeks—while hernia occupies an intermediate position.

Women should not be in too much of a hurry to resume the care of small children, although this is exactly what the average mother of such children is anxious to do. It is wise to try to convince her that it is good for the children and develops their character and independence to be with others for a time, and that she, the mother, can do them greater justice in the end by properly recuperating before she returns to them.

VARIOUS POSTOPERATIVE CONDITIONS

Adhesions.—The surgeon should not neglect to explain about adhesions, because if he does not mention the subject some one else will, and entirely wrong and disturbing notions may be the result. It should be explained that adhesions follow almost every abdominal operation, and that this is natural and proper. Nature has provided the omentum for this very purpose—to fasten together and protect internal wounds, just as we use adhesive plaster and dressings for similar purposes externally. It should be clearly understood that these adhesions are harmless, although they may pull uncomfortably for a time until they become stretched and adjusted to their surroundings. Also, it should be explained that, like the external dressings, they are usually temporary and that they tend to dissolve and disappear in the course of time.

The Eyes.—It is often desirable to direct attention to the eyes. If there is anything wrong with the accommodation of these organs, although the compensation may previously have been perfect, difficulty is apt to arise from muscular strain, following the weakening effects of a serious operation, which results in headache, dizziness and perhaps nausea. If these symptoms appear and persist, an oculist should be consulted.

Bathing.—Many patients are worried by an uncertainty as to when they may begin to take baths. It should be explained that "when a wound is well it is well," and that, other things being equal, they may begin bathing as soon as the wound is thoroughly healed and "dry"—usually in from two to three weeks after the operation.

Menstruation.—Unless something is said on this subject much uneasiness will result. It must be explained that irregularities of the menses often follow surgical operations; they may come too soon or too late, be too profuse or too scant, or even not appear at all for several months. Whatever occurs is of little importance and the function will adjust itself in the course of time without causing harm of any kind.

CONCLUSION

The preceding imperfect consideration of an important subject is of course merely suggestive; there are many points which have not even been touched on. Operations other than abdominal require individual instructions according to the nature of the case and the characteristics of the patient. For instance, where the skull and brain are concerned, it should be understood that mental exertion and excitement must be avoided for an appropriate length of time; in genito-urinary cases much water and other liquids should be consumed with the exclusion of anything containing alcohol or other irritating substances; in amputations, massage of the stump should be recommended and attention should be directed to the occurrence and persistence of reflex pains and peculiar sensations referred to the absent foot or hand, which are often disturbing, especially if not correctly understood. Patients who have had rectal trouble, those, for instance, who have been operated on for piles, must be told to avoid for at least two weeks the passage of hardened feces, making use, for this purpose, of proper cathartics and of warm saline enemas before movements of the bowels, when this seems to be necessary.

THE PURITY OF COMMERCIAL SODIUM SALICYLATE*

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While certain manufacturers lay great stress on the superiority of sodium salicylate made from oil of wintergreen or oil of birch, examination of the various pharmacopeias discloses the fact that in laying down the requirements for sodium salicylate no stipulation or reference is made as to its origin.

Inasmuch as a considerable number of physicians have endorsed these claims the Committee on Therapeutic Research of the Council on Pharmacy and Chemistry of the American Medical Association undertook an investigation of the subject. Thus far two reports have been published: (1) the critical review of the literature by Eggleston,[1] which showed that in spite of the claims and intimations of some manufacturers the evidence in favor of salicylates made from natural oils is actually very slight and that the evidence against artificial salicylate is even less; and (2) the pharmacologic study by Waddell[2] which showed that there is no difference in the physiologic action of thhe synthetic and "natural" sodium salicylates. As a further contribution to this research the results of a chemical investigation are now presented.†

Salicylic acid was first obtained by Piria[3] (1839) from salicyl aldehyd by treatment with alkali, and shortly after (1843) Cohours[4] and, almost simultaneously, Procter[5] found that it could be prepared from the essential oil of wintergreen (*Gaultheria procumbens*). Following these discoveries it was found that salicylic acid could be obtained from many other plants and chemical compounds. Although some physiologic experimentation was carried out with it, salicylic acid continued to be merely a laboratory compound and was introduced into medicine only after Kolbe's[6] discovery of synthesizing salicylic acid from phenol came into use.

Kolbe (1860) prepared sodium phenolate from phenol and sodium hydroxid and, after drying the product, subjected it at 100 C. to the action of carbon dioxid. Then the temperature was gradually raised to 180 and sometimes to 220, near the end of the operation. In this method during the heating, about one-half the phenol distilled unchanged, leaving in the retort a residue of basic sodium salicylate. The aqueous solution of this residue was treated with hydrochloric acid, yielding a precipitate of impure salicylic acid. The first portions of the precipitate were rejected as they contain resinous and coloring-matter; the subsequent portions were washed and distilled with superheated steam, resulting in a pure white product.

Kolbe's method was improved on by R. Schmitt[7] (1885), who, by saturating sodium phenolate with carbon dioxid at a low temperature and then heating the resulting product to from 120 to 130 C. in a closed vessel, obtained by molecular rearrangement sodium salicylate without formation of phenol as a side product.

These last two methods of producing salicylic acid and salicylates caused the wider study and use of these compounds, and soon salicylic acid made from natural oil of wintergreen and that made synthetically from phenol were used in medicine.

The earliest available published statement regarding the presence of an impurity in salicylic acid was that of Almên[8] (1877) who reported the presence of phenol in salicylic acid made synthetically from phenol. Shortly after this report Williams [9] (1878) isolated from 15 to 20 per cent. of a foreign organic substance which possessed properties similar to salicylic acid and which Williams called "cresyl-salicylic acid." This product of Williams was later more thoroughly examined and identified as cresotic acid. Squibb[10] (1883) stated that at that time even the better grades of salicylic acid contained from 4 to 5 per cent. of some impurity. Ewell and Prescott[11] (1888) devised a method for determining quantitatively homologous acids such as hydroxy-toluic and hydroxy-xylenic acids in salicylic acid. Fischer[12] (1889) stated that the chief impurities met with in commercial salicylic acid were cresotic, parahydroxy-benzoic and hydroxy-isophthalic acids and that the melting-point of salicylic acid was appreciably lowered by the presence of small quantities of cresotic acid; he further described a test for the presence of cresotic acids in salicylic acid. Charteris and Maclennan[13] (1889), as a result of animal experimentation, reported that salicylic acid made from natural oils was less toxic than that made synthetically. In the course of their paper they reported chemical work by Henderson, who was able to purify synthetic salicylic acid so that it possessed the same melting-point as that prepared from natural oil of wintergreen or birch. Although this product was apparently pure, its crystalline form was stated to differ from that of the natural acid. In the purifying process Henderson[14] isolated some impurity which he considered responsible for the toxic effects reported by Charteris.

In 1890 Dunstan and Bloch[15] took up the chemical examination of the product isolated by Williams and found both ortho- and meta-cresotic acids and in another specimen para-cresotic acid was found.

Using the method of Ewell and Prescott, Hesse[16] (1891) reported salicylic acid containing from 30 to 40 per cent. of foreign acids. In 1907 Carletti[17] published

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*Contribution from the Chemical Laboratory of the American Medical Association. This investigation was undertaken at the request of the Committee on Therapeutic Research, Council on Pharmacy and Chemistry American Medical Association.

[1] Eggleston: The Relative Value of the "Natural" and the Synthetic Salicylates, THE JOURNAL A. M. A., Dec. 7, 1912, p. 2057.

[2] Waddell: Comparative Investigation of the Effects and Toxicity of Sodium Salicylates of Natural and Synthetic Origin, Arch. Int. Med., December, 1911, p. 748.

†This paper with full analytical details will be reprinted in the annual report of the Chemical Laboratory.

[3] Piria: Ann. d. Chem., xxx, 165.

[4] Cohours: Ann. d. Chem., xlviii, 60.

[5] Procter: Am. Jour. Pharm., xiv, 211.

[6] Kolbe: Ann. d. Chem., cxv, 201.

[7] Schmitt: Jour. Prakt. Chem., 1884, series 2, xxxi, 407.

[8] Almên: Am. Jour. Pharm., 1887, p. 292.

[9] Williams: Pharm Jour., 1878, series 3, p. 785.

[10] Squibb. Ephemeris, i, 412.

[11] Ewell and Prescott: Proc. Am. Pharm. Assn., 1888, p. 78.

[12] Fischer: Ztschr. f. anal. Chem., Nov. 4, 1889, xxiv.

[13] Charteris and Maclennan: *Experimental Research as to the* General Comparative Action of the Natural and Artificial Salicylic Acids, and Their Salts Brit. Med. Jour., 1889, ii, 1208.

[14] Henderson: Jour. Soc. Chem. Indust., 1890, ix, 591

[15] Dunstan and Bloch Pharm. Jour., 1890, p. 428.

[16] Hesse: Pharm. Jour., 1891, p. 174.

[17] Carletti: Boll. Chim. Farm. Fasc., xi, 421.

TABLE 1.—THE WASSERMANN REACTION AND ACIDOSIS IN DIABETES MELLITUS, CASE 1*

Date	Glucose gm.	Acetone and Diacetic Acid, gm.	Beta-Oxy-butyric Acid, gm.	Was-ser-mann	Mercury	Sal-var-san
9/ 9/09	322	0.024	1.244	..	....	...
9/12/09	112	0.199	11.765	..	....	...
10/19/09	223	0.107	9.133	+	....	...
10/30/09	90	0.204	14.443	+	inunction	..
11/ 5/09	123	0.184	12.743	+	inunction	...
11/12/09	111	0.124	10.267	+	inunction	...
11/18/09	248	0.089	8.136	+	inunction	...
11/30/09	277	0.114	9.754	+	inunction	...
12/15/09	245	0.107	11.978	+	inunction	...
12/30/09	198	0.104	12.112	+	inunction	...
1/30/10	344	0.076	5.187	+	none	...

*The methods employed in the above determinations (and in all subsequent determinations noted in this paper) were as follows:

Glucose: Benedict titration method controlled by fermentation and polariscope.

Acetone bodies: Schaffer distillation method.

Wassermann reaction: The original technic with the above-mentioned antigens.

Case 2.—*Patient.*—White woman, aged 20. Father and mother alive and well. No history of syphilis or of disease common to family. Patient was healthy and robust as a child. She had a very severe pertussis when 10 years old.

Present Trouble.—In August of 1911 urine was examined on account of polyuria and thirst. About 300 gm. of sugar were found in the twenty-four-hour urine. The von Noorden method of treatment was followed. The patient rapidly grew worse, and within a few months had a most severe case of diabetes. The Wassermann reaction was strongly positive. Mercury was given by inunction and later by mouth. The Wassermann remained positive. Two intravenous injections of salvarsan were then given. The Wassermann was still positive. Table 2 gives the record of results.

TABLE 2.—THE WASSERMANN REACTION AND ACIDOSIS IN DIABETES MELLITUS CASE 2

Date	Glucose gm.	Acetone and Diacetic Acid, gm.	Beta-Oxy-butyric Acid, gm.	Was-ser-mann	Mercury	Sal-var-san gm.
8/28/11	300	0	......	..	....	...
9/15/11	288	0.029	0.112	..	....	...
9/28/11	296	0.134	1.113	+	....	...
10/30/11	456	0.463	9.789	+	inunction	..
11/15/11	423	0.532	18.233	+	inunction	..
11/29/11	542	0.478	13.456	+	mouth	...
12/14/11	428	0.674	15.987	+	mouth	...
1/ 5/12	248	0.968	19.145	+	mouth	0 4
1/17/12	679	.....	......	+	mouth	...
1/24/12	543	0.879	18.198	+	mouth	0.4
1/30/12	657	...	......	+	.....	...
2/29/12	...	..	......	+	.....	..

Mercury was given continuously to the limit of toleration from October 30 to January 24 of the following year. The salvarsan was given intravenously on January 5 and January 24 in doses of 0.4 gm. In spite of this treatment there was no change in the Wassermann reaction, and the diabetes became progressively worse

Case 3.—*Patient.*—White woman, aged 39. Father dead—cause pneumonia. Mother alive and well. No history of syphilis or of disease common to family. Childhood uneventful with no serious illness. Patient when 16 years old had pneumonia followed by a slow convalescence. No history of syphilis.

Present Trouble.—Three years ago the patient began to lose weight. Her attending physician diagnosed diabetes. She was treated by a strict diet with very little carbohydrate. Later the patient attempted to manage her own case. She ate largely of prepared "health foods." She came under observation eight months ago. At this time she had diabetes of a very severe type. The Wassermann was positive. Mercury administration was instituted and a full intravenous injection of salvarsan was given. The Wassermann remained positive. The diabetes was unimproved. Table 3 gives record of results.

TABLE 3.—THE WASSERMANN REACTION AND ACIDOSIS IN DIABETES MELLITUS CASE 3

Date	Glucose gm.	Acetone and Diacetic Acid, gm.	Beta-Oxy-butyric Acid, gm.	Was-ser-mann	Mercury	Sal-var-san gm.
9/21/11	456	0.089	1.987	+	....	...
9/26/11	409	.....	......	+	mouth	0.6
9/30/11	...	.....	......	+	mouth	...
10/15/11	562	0.097	2.520	+	mouth	...
10/30/11	...	.....	......	+	mouth	...
11/30/11	...	.....	......	+	mouth	...

Mercury was given *continuously from September 26 to* Nov. 30, 1911, to the limit of toleration.

Case 4.—*Patient.*—White man, aged 36. Father and mother alive and well. Three brothers alive and well. No history of syphilis or of disease common to family. Patient always healthy. No serious illness except pneumonia when 22 years old. No history of syphilis.

Present Trouble.—In January, 1911, patient was rejected for life-insurance on account of glycosuria. In February, 1912, he had a marked acidosis on a full carbohydrate diet, and a glycosuria on a carbohydrate-free diet. The Wassermann reaction was found positive. As in the preceding case, mercury and salvarsan were given. The symptoms of diabetes were unchanged. The record of examinations and treatment is given in Table 4.

TABLE 4.—THE WASSERMANN REACTION AND ACIDOSIS IN DIABETES MELLITUS CASE 4

Date	Glucose gm.	Acetone and Diacetic Acid, gm.	Beta-Oxy-butyric Acid, gm.	Was-ser-mann	Mercury	Sal-var-san gm.
2/16/12	98	0.046	4.113	+	....	...
2/20/12	477	0.025	2.234	+	mouth	0.6
3/ 9/12	243	0.052	3.879	+	mouth	...
3/30/12	...	.....	......	+	mouth	...
4/28/12	...	.....	....	+	mouth	...

The mercury was given continuously from February 20 to April 28 to the *limit of toleration. There was no change in* the diabetes or in the Wassermann reaction.

Case 5.—*Patient.*—White man, aged 28. Father and mother alive and well. No history of syphilis or of disease common to family. Childhood uneventful with no serious illness.

Present Trouble.—Patient well up to 1908, when he began to lose weight. He consulted a physician, who diagnosed diabetes. In December, 1911, he came under observation. At this time his urine showed a severe glycosuria, but an absence of acetone bodies. His Wassermann was negative. On strict carbohydrate-free diet acetone in small amounts appeared in the urine, but at no time was diacetic acid or beta-oxybutyric acid present. His Wassermann remained constantly negative. The details are given in Table 5.

TABLE 5.—THE WASSERMANN REACTION AND ACIDOSIS IN DIABETES MELLITUS CASE 5

Date	Glucose gm.	Acetone Bodies	Wasser-mann	Diet
12/ 2/11	362	none	—	regular
12/15/11	40	acetone trace	—	strict
12/29/11	none	acetone 0.029 gm.	—	strict
1/17/12	113	none	—	liberal

Case 6.—*Patient.*—White man, aged 56. Father and mother both died of typhoid in middle life. Patient had no brothers or sisters. There is no history of syphilis or of disease common to family. Patient says that he has never been sick. He denies syphilis.

Present Trouble.—Patient has had diabetes for the past fifteen years. He has had no treatment except at intervals.

He has never been willing to diet as a mode of treatment. During the four years following 1907 his urine was examined repeatedly and at no time was there less than 100 gm. of sugar present in the twenty-four-hour urine. The Wassermann reaction was tested on Jan. 4, 1912; Jan. 19, 1912; Feb. 7, 1912; March 1, 1912. In every test the result was negative.

Case 7.—*Patient.*—White, female, aged 35. Family history negative. Past history negative. Had a myomectomy in September, 1911. No history of syphilis or of disease common to family. Present history: About May 7, 1912, on account of placenta praevia an *accouchement forcé* was done. There had been bleeding for two months previous to this operation. On April 29, 1912, the urine showed marked trace of acetone, but an absence of diacetic acid and of beta-oxybutyric acid. A Wassermann made at this time was negative.

SUMMARY

This study reveals the following facts:

1. Four cases of diabetes with marked acidosis. All four cases give positive Wassermann reactions which are unaffected by antisyphilitic treatment.
2. Two cases of diabetes in which urine shows no acetone bodies in one, and only a slight amount of acetone in the other. Both show negative Wassermann reactions.
3. One case of non-diabetic acetonuria with an absence of diacetic acid and of beta-oxybutyric acid. Wassermann reaction is negative.

A study of the relation of the acidosis to the Wassermann reaction in cases of non-diabetic acidosis in which is found diacetic and beta-oxybutyric acids in the urine is very desirable for the completion of this report, but such a case has not been available for our use since the beginning of this study.

It is evident that syphilis was not an etiologic factor in any of the cases studied. It is also evident from a study of the cases of the first group that a positive Wassermann reaction is *not indicative of syphilis* in cases of diabetic acidosis. Cases in the second group (Cases 5 and 6) demonstrate that diabetic glycosuria in an absence of acidosis does not in these cases at least cause a non-specific positive Wassermann reaction. The case in the third group (Case 7) indicates that non-diabetic acetonuria with an absence of diacetic and beta-oxybutyric acids does not result in a positive Wassermann reaction in non-specific cases. The *question is still* open: Will non-specific cases in which is found marked acidosis of non-diabetic origin show positive Wassermann reactions, and what proportion of diabetic acidosis will show positive reactions?

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INDUCED VARIATIONS IN THE AGGLUTINABILITY OF BACILLUS TYPHOSUS *

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It is well recognized that strains of the typhoid bacillus vary in the readiness with which they are clumped by a typhoid patient's serum, or even by a typhoid immune serum. These variations in agglutinability are so marked in *freshly isolated* strains of the microorganism that not infrequently it is impossible to identify them as true typhoid bacilli even by the use of potent immune serums until they have been grown for several generations on culture mediums. This failure in immediate identification at best delays diagnosis and has at times led to error.[1] The following observations made in connection with an extended study on the comparative immunizing value of various preparations of the typhoid bacillus offer some explanation of the inagglutinability of freshly isolated cultures, and suggest a possible means of avoiding it.

As a means of testing the efficacy of various methods of immunization, we have made use of the presence or absence of the "typhoid carrier" state in rabbits which may follow intravenous injection of a living culture, as was first noted by Blackstein and by Welch. Such carrier animals frequently retain the organisms in the gall-bladder with periodic invasions of the circulating blood for long periods of time. Apart from testing antityphoid vaccination on anthropoid apes (Metchnikoff and Besredka) the cost of which is prohibitive, we regard this condition in rabbits as presenting the experimental condition most analogous to human typhoid.

In identifying the organism, isolated from the blood of suspected carrier rabbits, it was found that on first cultures they failed to be agglutinated by a strong antityphoid serum (Titer 1:20,000 macroscopic method) obtained by immunizing rabbits with agar cultures of the organism. A further investigation of this phenomenon developed a set of conditions almost entirely analogous to that demonstrated by Bordet and Sleeswijk[2] in connection with the whooping-cough bacillus. A readily agglutinable culture of *Bacillus typhosus* after passage through a rabbit regularly fails to be agglutinated by the ordinary antityphoid serum (anti-agar-typhoid serum). Simple subculture of the agar cultivated organism on rabbit-blood agar or on bile bouillon for two or three generations leads to the same inagglutinability (negative in a dilution of 1:100, while the original agar strain agglutinates in dilutions of 1:20,000). The blood and bile cultures, however, are as readily agglutinable as agar strains by the serum of rabbits immunized against blood cultures. Three subcultures of the blood organism on agar restore the agglutinability by anti-agar-typhoid serum.

Absorption experiments show that, although the blood cultures fail to flocculate out with anti-agar-typhoid serum, they do absorb the agglutinin, as is shown by the failure of agar cultures to clump with such treated serum. In this respect, our results differ from those of Bordet and Sleeswijk. The reverse is likewise true, that is to say, agar cultures remove the agglutinins for both blood and agar cultures from anti-blood-typhoid serum.

A *practical* application of these experiments immediately suggests itself. It seems likely that freshly isolated, inagglutinable cultures of *B. typhosus* would be agglutinated if tested with an antiserum obtained by immunizing animals with cultures grown on rabbit (or possibly only on human) blood agar. After waiting in vain for some time to encounter such a freshly isolated inagglutinable strain of *B. typhosus*, we offer this suggested method in order that others with more fresh material at their disposal may determine its value.

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1. See Paltauf: Die *Agglutination*, *Handbuch der pathogenen Microorganismen*, Kolle & Wassermann, Edition 2, 1912, ii, 505.
2. Bordet and Sleeswijk: Ann. de l'Inst. Pasteur, 1910, xxiv, 476.

SPOROTRICHUM SCHENCKII*

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MINNEAPOLIS

Some of the results of work on the morphology and cultural characteristics of *Sporotrichum schenckii,* and the lesions produced by that organism are reported in this paper.

Any one watching the publication of new research work during the last two years must have been impressed by the growing interest in sporotrichosis. Since the first observations on the organism recovered by Schenck in 1898 from the human lesion, the number of yearly contributions to the subject has progressively increased. Within the past year an immense amount of work has been published from all parts of the world. Among the men who have been foremost in this line are Widal;[1] DeBeurmann and Gougerot;[2, 3] Page, Frothingham and Paige;[4] Greco;[5] Walker and Ritchie;[6] Lutz and Splendore;[7] Kren and Schramek.[8] Reports of human cases have come in from all sides until more than a hundred are on record.

It is interesting to note the wide-spread opinion that many of the refractory cutaneous lesions diagnosed as syphilitic and tuberculous are due to infection with the sporothrix. From the reports of human cases of pharyngitis due to this organism and the involvement of nearly every organ in some of the experimental animals comes the suspicion that its work may not be confined to the superficial abscess usually caused in the human subject. DeBeurmann, who, with his associates, has probably done more systematic work on the subject than any other man, states that he believes sporotrichosis deserves an important place in human pathology. Moure found that 11 per cent. of a series of surgical abscesses coming under his observation were due to sporothrix infection. The reports of spontaneous cases in rats, horses and mules and one case in a dog, together with experiments showing the saprophytic growth of the organism on vegetables and fruits and the successful infection of young animals by mouth, are suggestive of the wide distribution of the organism and of the ready opportunities for contracting the disease.

The organism can usually be recovered by curettement and cultivated on artificial mediums, but is demonstrated with difficulty in the direct preparations in which only the spores have been seen.

MORPHOLOGY

The morphology of the sporothrix was first described in 1898 by B. R. Schenck,[9] who isolated it from an abscess on the arm of a man suffering from the infection. He describes a delicately segmented, branched mycelium of 1.5 to 2.0 microns in diameter, and spherical or slightly ovoid spores, 3 to 5 microns long, showing small, unstained areas.

In 1906 DeBeurmann and Gougerot began to publish the results of systematic work with the organism, which they have continued up to the present time. Within the past few months DeBeurmann has published a review of his work to date, one of the most comprehensive summaries of the work on this disease.[10] To Schenck's description he adds that the mycelia are curved, undulating, and usually parallel in arrangement, and that they produce few or no lateral spores. He also states that the spores are scarce or often absent.

DeBeurmann has described what he believes is a new species of sporotrichum, which has been given the specific name *beurmanni.* Matruchot, Pinoy and Vuillemin[10] have agreed with his conclusions. Together they base the establishment of the species *beurmanni* on the following main points in which it is said to differ from *Sporotrichum schenckii*: (*a*) the presence of sac-like enlargements of the mycelium containing spherical bodies which stain with difficulty and appear to be spores (these enlargements DeBeurmann terms "chlamydospores"); (*b*) the greater number, and pedunculate nature of the spores borne on the mycelium; (*c*) the infrequent branching of the mycelium; (*d*) the lack of parallel arrangement of the mycelial threads described as characteristic of *Sporotrichum schenckii*; (*e*) the fermentation of saccharose.

The literature shows that some confusion has been caused by the creation of this new species, which is regarded by most American investigators as insufficiently established, and many of the supposedly differential points have been found in my own studies to be inconstant or altogether lacking.

Contrary to the experience of most other observers, Hektoen and Perkins[11] described a strain which showed the spores attached to the mycelium by short pedicles. They gave an account of the development of the organism with the elongation of the spore, and the formation of lateral and terminal buds which develop into mycelia and, in turn bear both lateral and apical spores.

Garin[12] has described interesting involution forms in addition to the typical morphology.

Ripal and Dalous[13] have described the manner of mycelial development and the pedunculate nature of the spores and have noted the vacuoles and moving granules in segments of the living mycelium.

Gougerot[2] has given an excellent technic for the cultivation of the organism (*Sporotrichum beurmanni*), and also for the diagnosis of the disease by bacteriologic examination, supplemented by serum reactions of agglutination and complement fixation.

Widal and Abrami[1] have described positive results with agglutinating serums and the group reactions with serums from cases of actinomycosis.

Arndt[14] has contributed a description of the clinical manifestations of sporotrichosis and a classification of the forms of the disease.

The following description of the form of the organism is based on my study of a strain isolated by Dr. John M. Armstrong of St. Paul, Minn., from a case of human infection,[15] and a second equine strain received from the University of Pennsylvania. While the form of the bacterium varies greatly on different mediums, the unstained organism grown on dextrose glycerin agar has been selected as typical.

The mycelium is enveloped by a thin membrane within which, are clear, cylindrical vacuoles placed usually in

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[1] Widal and Abrami: Ann. de l'Inst. Pasteur, 1910, No. 24, 1.

[2] Gougerot, H.: Folia Clinica et Microscopica, 1908-9, i, 263.

[3] De Beurmann and Gougerot: Les Sporotrichoses, Paris, 1912.

[4] Page, Frothingham and Paige: Jour. Med. Research, 1910, No. 18.

[5] *Greco*: Argentina Med., 1907.

[6] Walker and Ritchie: Brit. Med. Jour., 1911, No. 2635, p. 1.

[7] Lutz and Splendore: Ann. d'ig. sper., 1907, xvii, 581.

[8] Kren and Schramek: Wien. klin. Wchnschr., 1909, p. 1519.

[9] Schenck, B. R.: Bull. Johns Hopkins Hosp., 1898, ix, 286.

[10] De Beurmann and Gougerot: Arch. f. Dermat. u. Syph., 1911, cx, 25.

[11] Hektoen and Perkins: Jour. Exper. Med., 1900, v, 77.

[12] Garin, Charles: Provence méd., 1911, No. 18, p. 194.

[13] Ripal and Dalous: Ann. de dermat. et de syph., 1910, ii, 372.

[14] Arndt, G.: Dermat. Ztschr., 1910, xvii, 24, 171.

[15] Armstrong, John M.: St. Paul Med. Jour., xiv, No. 4.

close apposition, end to end, and occupying most of the mycelial thread. At each end of these bodies is usually located a small refractile granule. In the old threads this detail becomes obscured. The segments become more distinct and the granules increase in number and vary greatly in size, showing a marked dancing motion. These dancing granules traverse the length of the segment, suspended in its fluid contents. The growing thread has either rounded ends or a constricted bulb-like process, like the cone of growth of a rhizoid. In old cultures segments of the mycelium, especially the terminal segments, are often greatly expanded and show within a thickened membrane clear, spherical bodies resembling those in the mycelium, which remain unstained by any of the methods employed. These sac-like enlargements of the mycelium are evidently the bodies termed "chlamydospores" by DeBeurmann, who holds them to be characteristic of *Sporotrichum beurmanni* and absent in *Sporotrichum schenckii*. The spores are produced laterally on the mycelium on short, delicate pedicles, or in clumps at the ends of the short branches. Free spores are numerous in the older cultures, often forming long chains without mycelial attachment. They are ovoid at first but become nearly spherical after breaking away from the thread. When stained, they present a coarsely granular body enclosed within a well-defined membrane, which, at times, strongly resembles a capsule. This membrane can be readily demonstrated by suitable stains. It is persistent on most artificial mediums, and is usually to be seen in preparations made from animal tissues and pus.

Considerable variation in form and number of spores occurs in different mediums. The most marked deviation is in blood-serum, where the organism shows little mycelial growth with the production of long, oval, spindle-shaped spores, having clear, unstained terminal areas (Fig. 1). The spores seen in sections of tissue lesions are very similar.

MORPHOLOGY IN TISSUES

In the tissue the organisms are difficult to see after the ordinary tissue stains, but they can be demonstrated clearly at the periphery of the areas of necrosis by a modification of the Gram stain. This modification consists in steaming for one minute with the anilin methyl violet and counter-staining lightly with alcoholic eosin, instead of aqueous fuchsin. The organisms are decolorized by alcohol unless heat is applied. By this method the spores can be more easily demonstrated than by the Gram stain used for this purpose by Hektoen and Perkins.[11]

The organisms in the tissue are typically cigar-shaped, although there is found to be great variation. They are larger than on artificial mediums, often reaching 6 to 8 microns in length. They often show transverse dark bands, or large granules with lighter areas between, and usually capsule-like membranes. Clear areas can usually be seen at one or both ends.

It was found to be impossible to demonstrate the mycelium in paraffin sections, although in one case it was clearly shown in direct preparations from a large abscess in the abdominal muscles and from the testicle of a rat. This animal was inoculated with a large subcutaneous injection of a broth culture of the organism beneath the skin of the back. After twenty-five days large abscesses had formed in the abdominal muscles and in the testicles, with extensive necrosis and the formation of large pus cavities, from which the mycelial forms of the organisms were recovered. Although a filtered culture was not used for the inoculation, yet the site of the lesions and the length of time between the inoculation and the examination seemed to justify the conclusion that the mycelial threads developed *in situ* and were not of extraneous origin. Hitherto the demonstration of the mycelium in direct preparations from lesions does not appear to have been mentioned in the literature. Contrary to the general experience, direct preparations which I made were usually found to contain numerous spores of the form described above, which were often Gram-negative.

The organism grows by the elongation of the spore, which usually divides into two. Buds push out from one or both of these new spores and grow rapidly, forming the mycelium which radiates from the center (Fig. 2). Lateral branches form by the growth of some of the spores borne on the mycelium. Their pedicles lengthen and thicken and the branches push out at right angles to the parent thread. No evidence of the parallel manner of growth described by DeBeurmann could be seen.

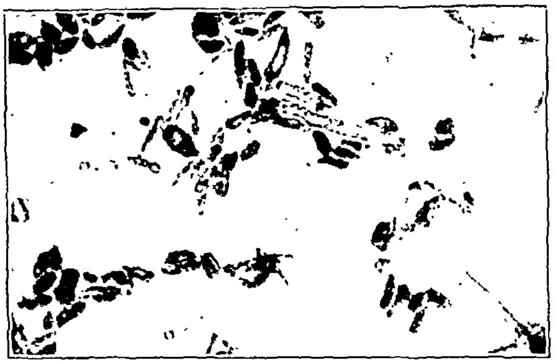

Fig. 1.—Six-day culture from blood-serum (stained with methyl thionin), showing numerous elongated spores and isolated segments of the mycelium (from photograph).

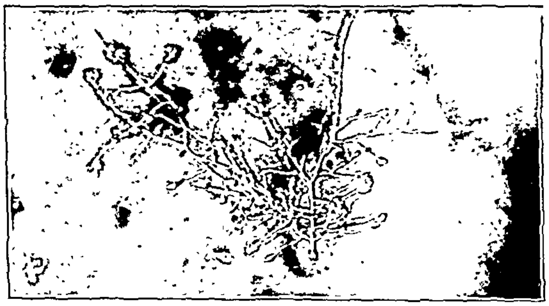

Fig. 2.—Growing organism (India ink and hanging agar block method, described in a previous article for which see Footnote 16) showing individual plants and *method of branching* (from photograph).

For photographing the living organism and demonstrating its modes and stages of growth a combination of the hanging agar block and India ink methods has been devised and described by me in a previous paper.[16]

STAINING CHARACTERISTICS

The spores and young mycelia from artificial mediums are Gram-positive and acid-fast in many cases. The mycelia stain irregularly, and occasionally the deeply staining, spherical bodies mentioned by Page, Frothingham and Paige can be noted at intervals. The capsule-like membranes are not shown by this method. Azure, Loeffler's methylene-blue and Giemsa's stains give good results, but also fail to differentiate the membranes. Methyl thionin in saturated solution and Wright's stain are especially suitable for this organism. Of these two the former is the more satisfactory. Very good results are obtained by staining for one minute in this stain. The membranes are clearly shown, stained faintly blue. The spores stain a deep blue, the young mycelia a paler tint, while the old mycelia and the so-called chlamydospores take on a rich brown. Wright's stain gives a similar polychromatic result, but much slighter in degree. India ink smears or His' stain also demonstrate the capsule-like membrane.

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[16] Taylor, K.: The Journal A. M. A., Aug. 10, 1912, p. 441.

CULTURAL CHARACTERISTICS

The organism was grown on thirty different mediums. In general the growth on routine mediums corresponds with the descriptions given by DeBeurmann and others. A few points may be emphasized or added. The observations, with few exceptions, were made on five-day cultures.

On plain agar the growth is white, beaded and filiform, coriaceous, but with a viscid surface.

On glycerin agar the growth is more rapid and beautifully echinulate. In the broths growth is slow with the formation of rings, or glistening, flocculent masses, like snow crystals. The fluid remains clear. In glycerin broth a white, mold-like, coherent mass is formed.

On blood-serum the growth is slow, beaded and closely adherent to the surface of the medium.

Milk is coagulated with slight acid after fourteen days.

Dextrose is fermented after fourteen days.

Maltose, lactose, saccharose and mannite are not fermented within fourteen days.

No indol is formed in fourteen days' growth in peptone solution.

The organism fails to liquefy gelatin within fourteen days.

No growth occurs on Endo's agar or Conradi-Drigalski, or malachite green medium.

Slow growth takes place on neutral-red agar and broth, with no change in the reaction of either medium.

The addition of 1 per cent. acetic or citric acid to the amount of one drop per cubic centimeter of medium, or the addition of dextrose to the medium, stimulates growth.

Alkalinity of the medium retards growth. Sodium chlorid in considerable amounts fails to produce appreciable effect.

PATHOGENESIS

Schenck[9] succeeded in infecting dogs and white mice with his strain of sporothrix. In four dogs he produced small local abscesses at the site of inoculation, from some of which he recovered the organism. White mice he found more susceptible. In several of these he produced small areas of focal necrosis in the liver and lungs by intraperitoneal inoculation, and found fragments of the spores in the lymph-nodes. Rabbits and guinea-pigs proved resistant.

Page, Frothingham and Paige[4] infected mice and white rats with a strain of *Sporotrichum schenckii* recovered from horses suffering from lymphangitis epizootica, a disease generally believed to be caused by this bacterium. They recovered sporothrix from the lesions. They also reported that fragments of the spores could be seen in paraffin sections of the tissues. Rabbits and guinea-pigs proved resistant.

Widal and Abrami,[1] with another strain, were able to show definitely the presence of the spores in the tissue. Rabbits and guinea-pigs were the animals used in their experiments.

Kren and Schramek,[8] in experiments on rats and dogs, found that nearly all the organs in the body might be affected, but they failed to find the spores in smears from the tissues and rarely in paraffin sections of the tissues themselves.

Hektoen and Perkins,[11] Bonnet,[17] Pinoy and Magrou[18] and others have inoculated animals and described the reactions following. Considerable variation has been found in the susceptibility of the various laboratory animals.

DeBeurmann has described the form of the sporothrix in the tissues and the tissue reactions. The form he described as an oval spore-like body, but believed it to be a modification of the mycelium, and not the true spore. The tissue reaction he gave in detail. Briefly, he found the lesions to show three zones: first, a central small abscess containing the bacteria and a mass of pus cells and necrotic material; next, a zone of epithelioid and giant cells; and third, a peripheral fibrocellular zone with infiltration of polymorphonuclear cells and connective tissue proliferation. In addition he has succeeded in growing the organism as a saprophyte on vegetables, fruits and insects.

The strain isolated by Dr. Armstrong produced the disease in three of our guinea-pigs and twelve rats. From two of the guinea-pigs and six of the rats the bacterium was later recovered, grown in artificial mediums and identified. The other six rats showed the gross lesions, but the organism was not recovered nor seen in the direct preparations from the lesions of the three which were killed. The other three recovered. In none of the animals was the disease fatal, although nearly all showed gross lesions and marked cachexia. Subcutaneous, intraperitoneal and intratesticular inoculations were used. The latter proved most reliable.

Three rats which failed to develop symptoms after the first subcutaneous inoculation, consisting of 2 c.c. of a six-day broth culture, which was effective in most cases, were reinoculated three weeks later in the peritoneum with three times that amount of a similar culture. All three animals failed to develop signs of sporotrichal infection, nor could any internal lesions be found when the animals were killed, after four weeks. Another rat, which had been inoculated and had developed subcutaneous abscesses, was reinoculated three months after all the lesions had healed with a large amount of a six-day broth culture of the organism. This animal also failed to show any signs of reinfection.

PATHOLOGY

In nearly all of the animals abscesses discharging externally appeared within twenty-one days; in some numerous small abscesses of the peritoneum, and in one a large abscess in the abdominal muscles. The testicles in these experiments, usually showed marked swelling, inflammatory adhesions to the tunica, and abscesses which ultimately discharged through the skin. On section, a thick, yellow pus was evident. The microscopic picture showed extensive edema and necrosis involving sometimes the whole organ. The epididymis was affected by a process similar to that in the testicle. The bladder was usually distended with a purulent fluid. The spleen and lymph-nodes were enlarged and sometimes showed focal necroses, with increased eosinoph and polymorphonuclear cells.

The muscular abscesses showed great necrosis ar extensive edema and degeneration of the surroundi

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17. Bonnet, L. M.: Rev. de méd., 1911, p. 99.
18. Pinoy and Magrou: Compt. rend Soc de biol., 1911, lxxi

muscle. The cellular infiltration was similar to that in other locations, small mononuclear cells predominating.

Abscesses of the peritoneum and especially in the mesentery were of common occurrence after intraperitoneal inoculation.

In general, the lesions may be described as granulomatous. There is usually a central area of necrosis, surrounded by a zone of dense cellular infiltration, the preponderating cells being polymorphonuclear in type. About this zone is an extensive area showing congestion, hemorrhage, infiltration of large cells with eccentric vesicular nuclei and homogeneous eosinophilic cytoplasm. There is also infiltration of large numbers of small mononuclear cells and eosinophils. Marked proliferation of connective tissue is shown in this region, and giant cells are of frequent occurrence. The spores of the organism are demonstrated in nearly every case by the modified Gram stain described above. The spores prove to be distributed throughout the lesions, but are usually most numerous and most easily found at the periphery of the necrotic area. They are usually intercellular. The mycelium could not be conclusively demonstrated in paraffin sections.

SUMMARY

The following observations made in connection with the present study may be briefly formulated again, as follows:

1. The spores of the organism were attached to the mycelia by short pedicles.
2. So-called chlamydospores were of frequent occurrence.
3. Spores, similar in form to those grown on blood-serum, could usually be demonstrated in paraffin sections of the tissue lesions, and shown in most cases in direct preparations from the abscesses.
4. In one case it appeared that mycelial growth took place in the necrotic tissue at the center of a large abscess caused by the organism.
5. Methyl thionin proved best for staining the organism grown on artificial mediums, and a modification of Gram's stain most satisfactory for its demonstration in the tissues.
6. The organism failed to liquefy gelatin after six weeks' growth at room temperature.
7. Milk was coagulated after two weeks' growth at room temperature.
8. Some hint of the possibility of producing an immunity in animals by previous injection of small doses of pure culture may perhaps be based on these observations. There is however insufficient basis for any definite statement.

I wish in conclusion to express my thanks to Dr. W. P. Larson of the University of Minnesota for his valuable criticism of this paper.

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PYELOTOMY FOR THE REMOVAL OF RENAL CALCULI *

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In the removal of calculi from the kidney we aim to do as little damage as possible to the secreting structure. The first to suggest removal of calculi through an incision along the convex (outer) border of the kidney was Henry Morris, in 1880. For many years this was the only method in general use and the term "nephrotomy" was applied to it, no matter whether the incision was only large enough to introduce the index-finger or whether the incision bisected the kidney in the same manner as we open it at autopsy. With the development of radiographic technic, a new era began and the ability to determine accurately the location, form, size and number of calculi in the kidney made it unnecessary to remove every calculus, no matter what its size or location might be, through a nephrotomy incision. The demand for some other method, especially for smaller calculi located in the renal pelvis, became especially urgent when reports of postoperative bleeding and other sequelae of nephrotomy began to accumulate.

Strange to say, the removal of calculi through an incision into the renal pelvis, technically termed a pyelotomy, was suggested by Czerny in the same year that Morris first performed nephrotomy. The operation of pyelotomy was employed rarely, however, until within recent years. French surgeons have been the most enthusiastic advocates of the method, and thus pyelotomy has gradually again attained the important position which, in my opinion, it deserves as the method of choice in the removal of renal calculi. Of late, reports

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* Read at the meeting of the Western Surgical Association, Dec. 20, 1912.

equally favorable to those of the French surgeons have come from the German clinics. In this country many surgeons still cling to the older operation of nephrotomy, and it is with the object of calling attention to the many advantages of pyelotomy over nephrotomy that this paper has been written. In order more fully to understand some of the points to be referred to in the description of the operation, a brief review of some anatomic facts is necessary.

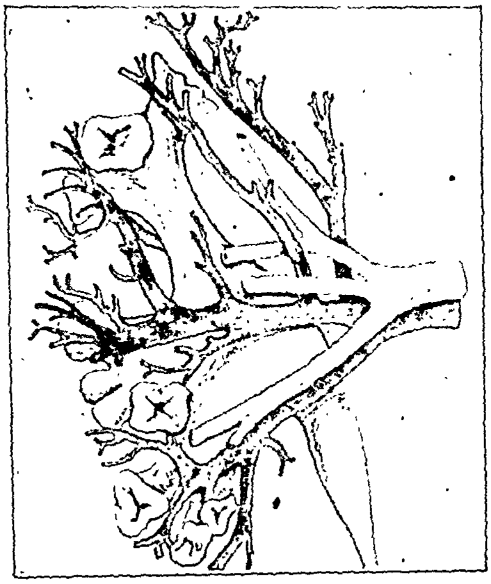

Fig. 1.—Relation of arteries and veins to anterior surface of renal pelvis (Albarran).

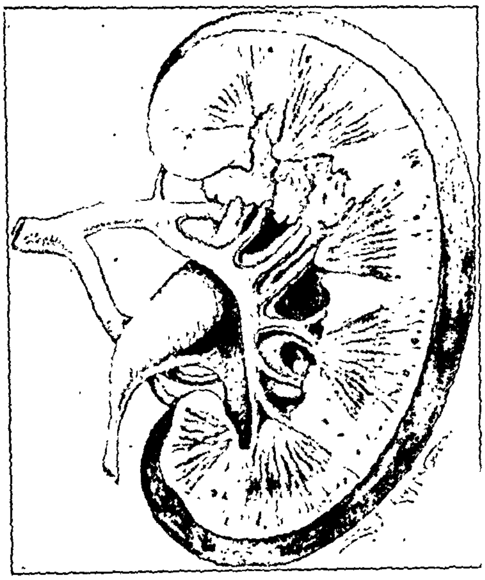

Fig. 2.—Distribution of retropelvic artery (Albarran).

ANATOMY OF THE KIDNEY

The renal vessels, both artery and vein, begin to divide just before reaching the inner or mesial border of the renal pelvis, so that the entire anterior surface of the pelvis is covered by the primary branches of the main artery and vein. These relations are well shown in Figure 1. For this reason an incision into the anterior aspect of the pelvis is impracticable, on account of the intimate relations of so many arterial and venous trunks to this surface. The chief or primary arterial branch supplying the upper pole gives off a fair-sized vessel just before entering the substance of the kidney. This artery winds around the upper border of the pelvis as a retropelvic artery, and, after arching across the posterior surface of the renal pelvis, gives off branches to supply the posterior half of the kidney. This retropelvic artery is quite constant, but fortunately it is so well within the hilum and so far away from the incision usually made through the posterior surface as to be practically a negligible factor. It is well, however, to watch for anomalies of this artery and to make the incision not too near the parenchyma of the kidney, i. e., a fair distance away from the junction of the intrarenal and extrarenal portions of the pelvis. Both the anterior and posterior surfaces of the renal pelvis are covered with a finely lobulated layer of fat. Some small veins are often found in this peripelvic fat layer. When these veins are severed, bleeding is easily controlled by a fine catgut transfixion ligature. Aside from these small vessels and the above-described retropelvic artery, the posterior aspect of the pelvis is by far the least vascular portion.

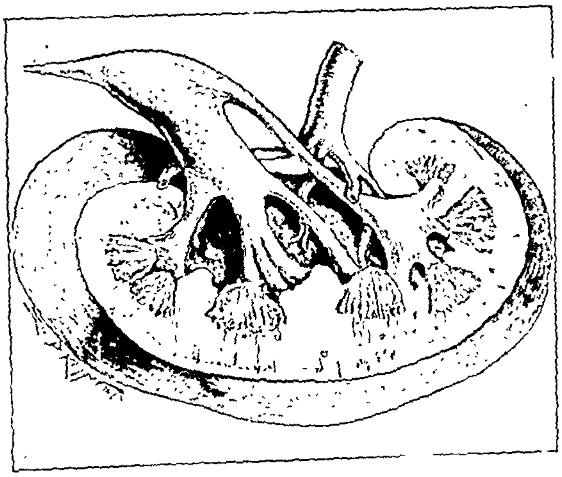

Fig. 3.—Relation of renal vessels to bifid type of pelvis (Albarran).

Types of Pelvis.—In the early history of pyelotomy but little attention was paid to the fact that not all kidneys possessed the same type of pelvis. In order to become proficient in the operation of pyelotomy, an operator must know that a number of different types of renal pelves exist. Although there are eight or nine different forms, it is necessary to bear in mind only the principal two, the ampullary (Figs. 2, 4 and 5) and the bifid types (Figs. 3 and 6). In the ampullary the ureter ends in a renal pelvis which has only a single cavity of fair size, from which short primary calices arise, which receive the papillae of the parenchyma. A calculus lodged in such a single sac-like pelvis is comparatively easy to extract unless it be tightly wedged in one of the short primary calices (Fig. 4).

Conditions are quite different, however, in the bifid (Figs. 5 and 6) or the still more complex trifid type of pelvis. In the bifid form, the renal pelvis proper is small and divides almost immediately into two relatively narrow primary calices which again subdivide in order to receive the papillae (Fig. 6). The frequency with which the various types of pelves occur has never been studied, so far as I am able to learn. In my own experience about 70 per cent. of renal pelves have been of the ampullary or single type, and about 20 per cent. of the bifid or double type, the remainder being made up of the other varieties. The relations of the renal vessels to the various types of the renal pelvis remain the same.

Relations of Peripelvic Veins to Primary and Secondary Calices.—A recent experience, referred to later under the technic, has stimulated a study of the relation of the calices into which the renal pelvis divides, to the chief branches of the renal vein. The latter, like the first divisions of the renal artery, lie in close relation to the anterior aspect of the pelvis, both within and without the kidney. Each papilla, moreover (Fig. 7), is surrounded by a network of veins which collect the blood returning from the renal parenchyma. For this reason a stone lodged in a narrow secondary calix or branch of the renal pelvis must of necessity

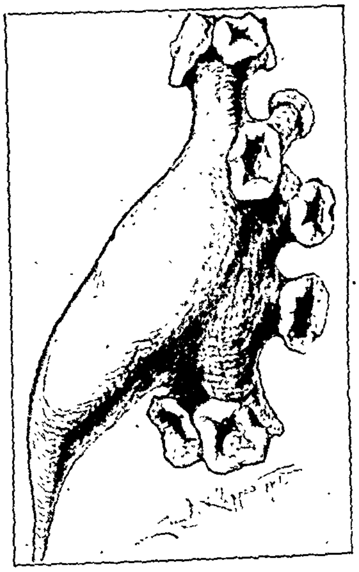

Fig. 4.—Typical ampullary type of renal pelvis (Albarran).

lie in close relation to some of these peripelvic veins. One can readily see how pressure atrophy of the only tissue, namely, the pelvic mucous membrane, separating the peripelvic vein from the stone, could occur, and the removal of the calculus be followed by a severe hemorrhage. It cannot be denied that the same accident might occur when the calculus is pulled out through a nephrotomy incision, as when it is loosened and pulled down, be it ever so gently through the pyelotomy incision.

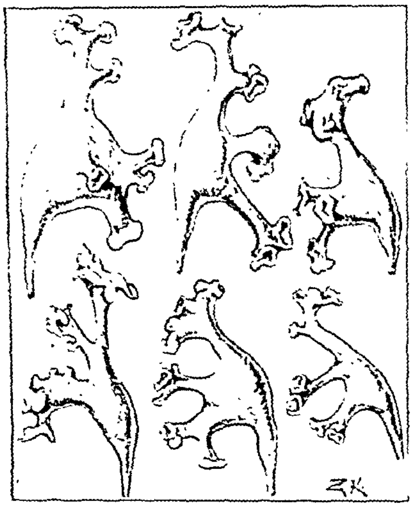

Fig. 5.—Various types of renal pelvis (Albarran).

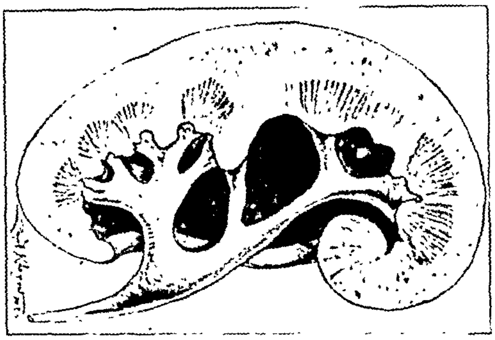

Fig. 6.—Typical bifid type of renal pelvis. Note small size of extrarenal portion (Albarran).

The relation of the branches of the renal arteries to the outer wall of the pelvis is not less intimate than that of the veins. No case has yet been reported of an arterial hemorrhage following pyelotomy similar to the decubital venous one which I report later in this paper. I mention these vessel relations to the outer aspect of the intrarenal portion of the pelvis because the operation of pyelotomy was at first limited to calculi lying loose in the renal pelvis or moderately tightly impacted in the point of junction of the ureter and renal pelvis. Of late, the sphere of usefulness of pyelotomy has been extended, especially by French surgeons, to the removal of calculi much larger than those for which the operation was originally suggested. In some of my own cases we have been able to remove calculi by this route which were lying in primary calices, i. e., in the first division of the ampullary type of renal pelvis. With one finger inserted through the pyelotomy incision and the fingers of the other hand palpating the outer surface of the kidney, one is astounded at the ease with which every portion of the renal pelvis, and even the calices and papillae emptying into them, can be felt and calculi localized. Such a bimanual palpation of the interior of the kidney has of course as its first requirement that the kidney can be brought well out into the parietal incision. My chief reason for emphasizing the intimate relations between the pelvic wall and the peripelvic vessels is to warn against any rough manipulations within the renal pelvis.

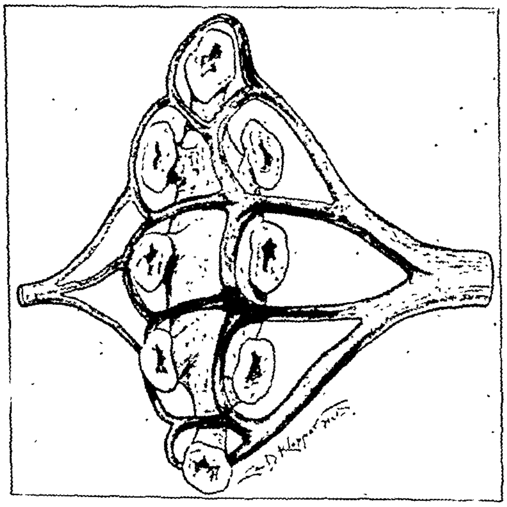

Fig. 7.—Relation of peripelvic veins to papillae (Albarran).

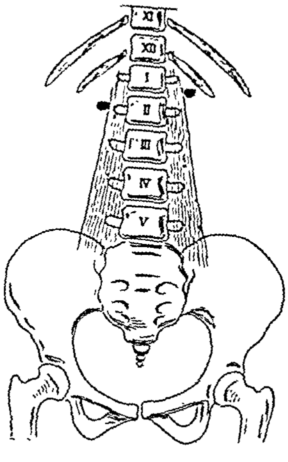

Fig. 8.—Typical location of stones located at junction of ureter and renal pelvis (ureteropelvic junction). Note exceptions in text.

Rôle Played by X-Ray.—Granted that the patient has been thoroughly prepared and the plates are examined by one accustomed to interpret them, the present development of *x*-ray technic enables one to determine with more than a fair degree of accuracy the position of shadows with reference to whether they are in the renal pelvis or parenchyma. A shadow located on a level with and close to the transverse process of either the first or second lumbar vertebra (Fig. 8) is due, as a rule, to a calculus located at the junction of the ureter with the renal pelvis (ureteropelvic junction). Such a shadow may be triangular, round, or show a projection in a downward and inward direction. Zuckerkandl has recently directed attention to the characteristic nipple-like appearance of shadows at the ureteropelvic junction (Fig. 9). When a shadow of this shape and location is present, one can usually say in advance that the calculus can be removed by pyelotomy. No one will attempt to say, however, that every shadow located at the position just described is at the ureteropelvic junction. If the kidney lies lower than normal, the shadow may be due to a calculus in the upper half of the renal pelvis, or in the renal parenchyma, close to the inner or mesial border of a low-lying kidney (Fig. 10). On the other hand, the shadow may be due to a calculus in the lower half of the renal pelvis of a high-lying kidney (Fig. 11). Further experience will, of course, show more exceptions, but the interpretation of shadows located as just described (Fig. 8) will serve for the present as a working basis.

In the absence of other complications, pyelotomy can be considered as the ideal method for calculi at the ureteropelvic junction. A peculiar shadow may be the result of calculi located partly in the primary division of a bifid pelvis and extending into the ureter (Fig. 12), or when the calculus extends in a pipe-like manner for some distance into the ureter.

Shadows Not at Ureteropelvic Junction.—When the shadow is further away, i. e., outward, from a vertical line drawn through the outer ends of the transverse processes of the first or second lumbar vertebra, the calculus usually lies in a dilated calix or in the renal parenchyma. If the shadows are multiple and are close together, the stones are probably in the renal pelvis (Fig. 12) or in a dilated calix, readily reached through the pyelotomy incision. When the shadow is single and a little farther out than where the ureteropelvic junction calculi are seen, the calculus is usually free in the renal pelvis or is lodged in a primary or secondary calix, and also easily reached through the pyelotomy incision. When the shadow is large and triangular, or coral-like (Fig. 13), or there are a number of shadows distributed over a wide area (Fig. 14), one of two conditions is usually found at operation: (*a*) either the renal pelvis is greatly dilated and filled by a large calculus, or (*b*) multiple shadows signify considerable destruction of the renal parenchyma. With such *x*-ray findings pyelotomy scarcely can be considered, although many of the French and German surgeons have become quite radical in combining incisions into the renal pelvis with those of the parenchyma in the removal of relatively large calculi located in the dilated pelvis.

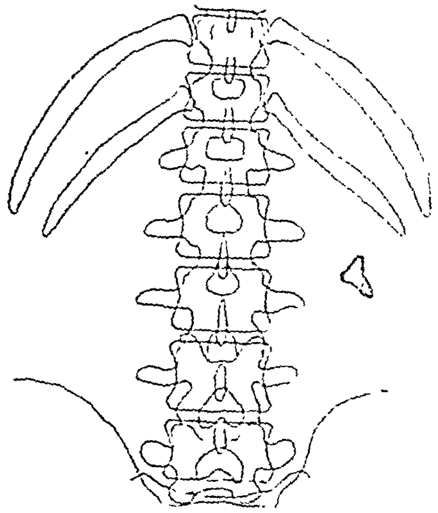

Fig. 9.—Tracing of skiagram of typical nipple-like calculus located at ureteropelvic junction (Dr. C. E. Kahlke's case).

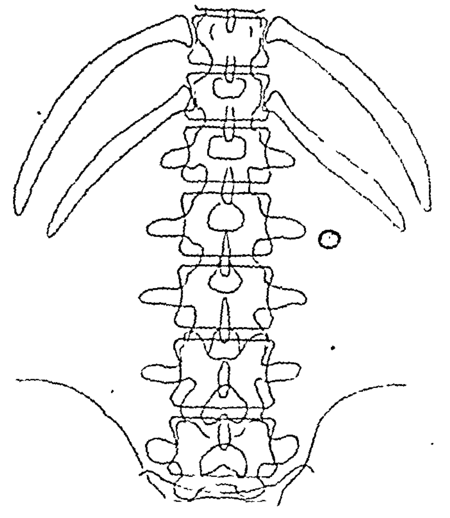

Fig. 10.—Tracing of skiagram of calculus located in upper pole of low-lying kidney. Illustrates exception to statement that shadows at this location are always due to stones at the ureteropelvic junction (Dr. G. Kolischer's case).

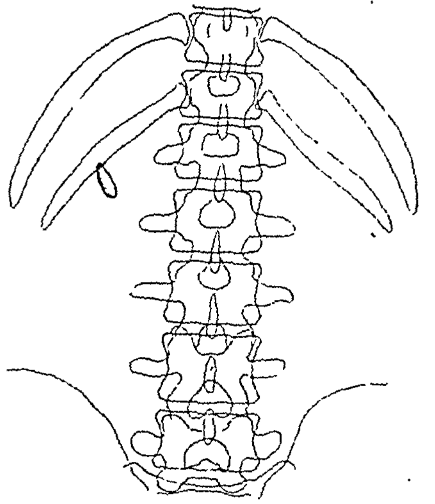

Fig. 11.—Tracing of skiagram of almond-like calculus located in lower pole of high-lying kidney. To illustrate exception to statement that shadows so located are due to calculi at ureteropelvic junction (author's case).

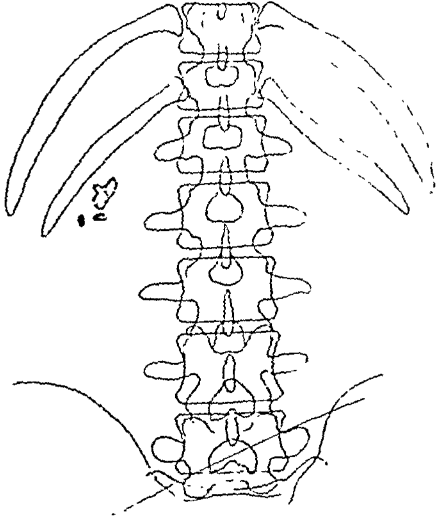

Fig. 12.—Tracing of skiagram of calculi located in lower primary calix of bifid type of pelvis. Recovered by pyelotomy (author's case).

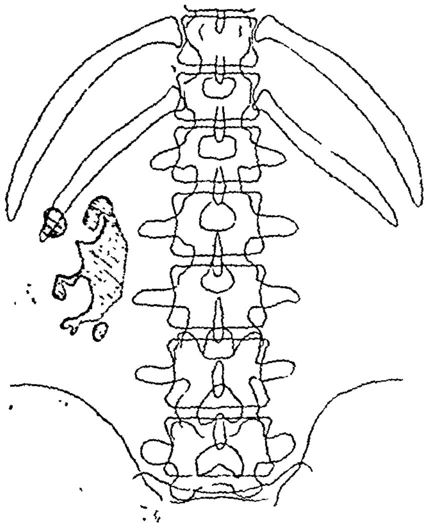

Fig. 13.—Tracing of skiagram of coral-like calculus occupying almost entire kidney (author's case).

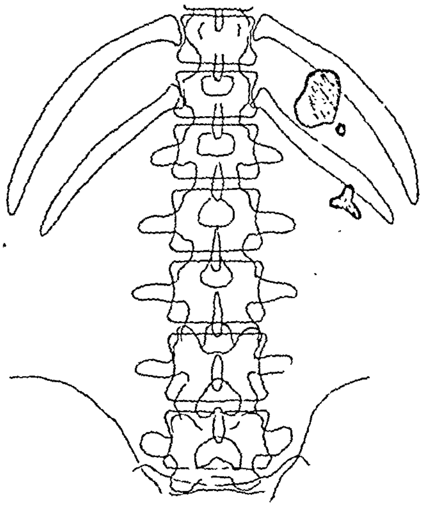

Fig. 14.—Multiple widely separated shadows lying in dilated calices of pyonephrotic kidney.

It is beyond the province of the present paper to discuss the question of nephrotomy or nephrectomy when large or multiple calculi are present with extensive destruction of the kidney.

TECHNIC OF PYELOTOMY

The method of exposure and of bringing the kidney into the wound does not differ in any manner from that employed for nephrotomy. In order to perform a pyelotomy, one must be able either to lay the kidney completely on its anterior surface, on the skin edges of the incision (Fig. 15), or at least to gain access to the posterior aspect of the renal pelvis without much tension on the renal vessels. If the pedicle is short or there is much fixation of the kidney by adhesions, pyelotomy is out of the question, and too much traction under such conditions will surely result in disaster.

In the majority of cases, however, pyelotomy is possible if the incision is not too small and the wound edges are well retracted.

The method which I employ is to insert two fine traction sutures through the wall of the renal pelvis on each side of the proposed incision. The wall is then incised and the opening enlarged in an upward and downward direction with fine scissors. The edges of the incision are now held apart by the traction sutures which have been previously inserted as shown in the diagram, Figure 16. This procedure causes no bleeding, as a rule.

Occasionally a small vein in the fatty layer surrounding the pelvis may require transfixion. Every effort should be made to conserve the fatty tissues immediately adjacent to the renal pelvis. Calculi lying at the ureteropelvic junction can usually be felt when the kidney is turned on its face (Fig. 15), and the incision through the pelvic wall can be made directly over the calculus. Through the pyelotomy incision one can introduce the index finger and palpate the entire interior of the pelvis. The extraction of calculi lying loose in an ampullary or one of the main divisions of a bifid pelvis is very simple.

That accidents can occur when a calculus is firmly impacted in a calix is shown by a recent case of mine. The calculus was firmly held in a calix of the lower portion of an ampullary type of pelvis; it was separated by the most gentle manipulation and extracted with a blunt instrument, without any immediate bleeding. Several minutes later a steady, quite profuse amount of venous blood began to escape from the pyelotomy incision. All efforts to check the bleeding, such as tamponade and transfixion ligation of the lower portion of the renal pelvis, were of no avail and it was necessary to perform a nephrectomy. Examination of the specimen revealed that the bleeding had its origin in a small vein, just outside of the renal pelvis, and in close *contact* with the calculus. The latter had probably caused a thinning of the wall of the vein and after the calculus was removed the pressure within the vein caused the weak intervening tissue to yield with resultant bleeding into the renal pelvis.

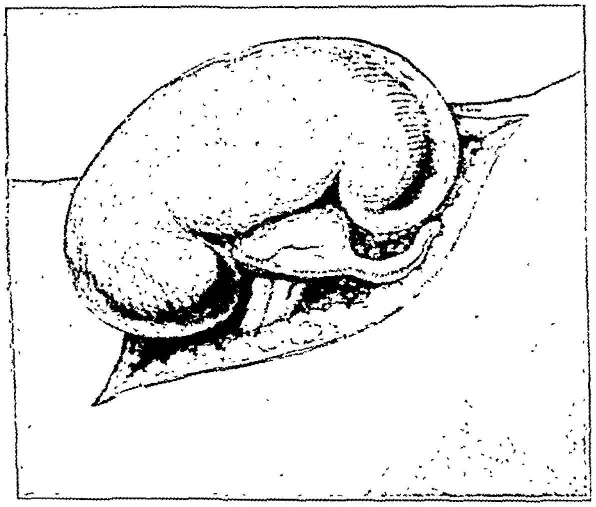

Fig. 15.—Posterior aspect of renal pelvis exposed in incision as first step of pyelotomy. Note avascular condition of the posterior aspect of renal pelvis.

I have referred above to the close relation between the peripelvic veins and the pelvic mucosa. The occurrence of such severe bleeding even after the most gentle manipulation shows the necessity of bearing in mind these vessel relations.

After removal of the calculus or calculi, the incision in the renal pelvis is closed with 00 chromic gut sutures, which do not pass through the mucous membrane. If the urine is clear or contains only a small amount of pus, one can safely close the incision completely, insert a cigaret drain or small rubber tube down to the suture line, and replace the kidney. The danger of fistula formation is practically nil, provided that the ureteral lumen is not obstructed between the renal pelvis and bladder. It is advisable to pass a ureteral catheter down to the bladder before closing the pyelotomy incision. When the urine contains considerable pus and nephrectomy is contra-indicated, a soft rubber drain is sutured into the pyelotomy incision and brought out through the posterior end of the abdominal wound.

COMPARISON OF NEPHROTOMY AND PYELOTOMY

Advantages of Nephrotomy.—1. Nephrotomy is preferable in cases in which there is a large branched calculus filling the renal pelvis, or in which there are many small calculi lying scattered throughout the kidney in closed cavities. In many of these cases, especially if the condition is a bilateral one, a finger inserted into the renal pelvis through a pyelotomy incision will aid in locating the calculi and they can be delivered through multiple small incisions through the convex surface of the kidney.

2. Nephrotomy is to be chosen in infected cases in which there is more or less destruction of the parenchyma. Here the question of whether nephrotomy or nephrectomy should be performed is to be considered, rather than any other operation. I cannot urge too strongly the necessity of ureteral catheterization of each kidney as a routine method before any operation for the removal of renal calculi. One never knows absolutely before operation whether the kidney must be removed: hence the obligation on the part of the operator of knowing the functional capacity of the opposite organ. In infected cases, when it is not necessary to remove the kidney, drainage is far better through a nephrotomy incision than through that of a pyelotomy.

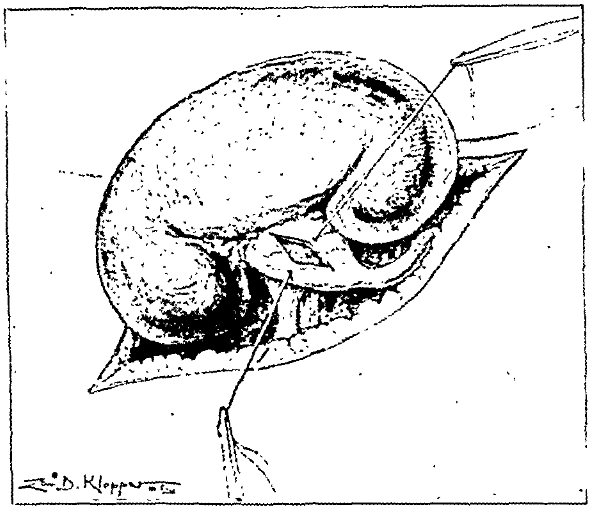

Fig. 16.—Renal pelvis opened by longitudinal incision and edges held apart by two traction sutures of catgut.

3. Nephrotomy is the safer operation when the renal pedicle is short, or when there are extensive perinephritic changes which render delivery of the kidney into the wound very difficult.

4. The condition of the parenchyma can be determined much better through a nephrotomy incision. Much information as to the extent of destructive changes should have been secured, however, before operation, from the study of the clinical history, palpation, *x*-ray findings, functional tests and examination of the urine from each kidney.

Disadvantages of Nephrotomy.—1. The bleeding during the operation is far greater than in pyelotomy, even though the renal pedicle be well compressed. If the nephrotomy incision be made just large enough to admit the index-finger, while the renal vessels are compressed at the hilus, the amount of blood lost, it is true, is usually slight. If the incision be more extensive, even though it be made behind the middle of the convexity, as Zondek has shown, the bleeding may be quite alarming, especially during the removal of a large branched calculus. The employment of bisection of the kidney has fortunately become greatly restricted through the greater accuracy of our radiographic technic.

2. The danger of hemorrhage following nephrotomy is by far the greatest objection, and has been one of the chief reasons for the rapidly growing popularity of pyelotomy. In addition to arteriosclerosis, hemophilia and imperfect suture of the nephrotomy incision, the most frequent causes of such postoperative bleeding are (*a*) the detachment of thrombi; (*b*) the septic erosion of vessels exposed in the line of incision, and (*c*) the bursting open of the nephrotomy wound when the ureter becomes obstructed by a blood-clot. Makkas[1] collected reports of nineteen cases, and Neuhauser[2] reports sixteen of Israel's cases. In ten of the latter, two patients died after the kidney incision had been tamponed, and in six it was necessary to remove the kidney, with three deaths, in spite of the secondary nephrectomy. Neuhauser speaks of the fact that a severe hematuria may occur after a pyelotomy, and my case, quoted above, confirms this. The danger of hemorrhage either during or after nephrotomy is much greater, however, as Haberer and others have shown, than after pyelotomy.

3. The danger of overlooking calculi, even with a good skiagram, is greater with nephrotomy than in pyelotomy. In the latter, one can palpate every portion of the pelvis and parenchyma bimanually, as previously described.

4. The danger of necrosis of the parenchyma following nephrotomy has no doubt been greatly exaggerated, but it is by no means a negligible factor in determining the method of operation.

Advantages of Pyelotomy.—1. Pyelotomy is the simplest and least serious method for the removal of calculi lodged at the junction of the ureter and renal pelvis, or for small or moderately large calculi, either free in the ampullary type of pelvis or in a primary calix of a bifid or trifid type of pelvis. Pyelotomy is also rapidly becoming the method of choice for small calculi lodged in the calices of the ampullary type of pelvis. Some operators combine transverse or vertical incisions into the parenchyma with pyelotomy for the removal of larger calculi.

2. It is the best method for calculi in one or both pelves of a horseshoe kidney, as well as in bilateral cases, especially in those complicated by anuria.

3. Hemorrhage is far less likely to occur either during or after pyelotomy than in nephrotomy.

4. Bimanual palpation of the pelvis and parenchyma lessens the chance of overlooking a calculus.

5. Pyelotomy can be done much more rapidly, and the period of convalescence is much shorter than in nephrotomy. It is seldom more than ten to fourteen days, in my experience.

Disadvantages of Pyelotomy.—1. Pyelotomy is contraindicated when the kidney is fixed by adhesions or the pedicle is short, or if extensive infection is present.

2. A fistula may persist after operation. The danger of such a condition is very slight, unless one has overlooked some obstruction of the ureteral lumen distal to the pyelotomy incision. A ureteral catheter should always be passed down into the bladder before suturing a pyelotomy incision.

3. The danger of bleeding either during or after operation, from the peripelvic vessels, although slight, must always be borne in mind.

In conclusion, let me add that I believe that pyelotomy is destined to become an active competitor with nephrotomy in the *majority* of cases. Many of the most prominent European surgeons are enthusiastic in speaking of the many advantages of pyelotomy, and the chief object of this paper is to call the attention of American surgeons to the many merits of the operation.

31 North State Street.

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[1] Makkas: Deutsch. Ztschr. f. Chir., ciii.

[2] Neuhauser: Folia Urol., iv.

A CASE OF PULMONARY INSUFFICIENCY*

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Writers and clinicians consider pulmonary insufficiency the rarest valvular lesion of the heart. Of 24,000 admissions to the Johns Hopkins Hospital only three such cases were found, and of this number the diagnosis in only one was made during life.[1]

In my clinic at the New York Post-Graduate Medical School and Hospital, in which nearly 800 heart cases are studied every year, the following is the first one of its kind which has come to my notice in eleven years:

Mrs. J. S., aged 26, born in Hungary, no children, one miscarriage three years ago, had measles at the age of 2, and never any other infectious disease. Six years ago she was troubled with a cough which lasted six months and then abruptly disappeared. The patient tells of mild pain in the joints, but it never amounted to much. There is no such pain at present. July 1, 1912, the woman presented herself for treatment in the Medical Clinic of the Post-Graduate Medical School and Hospital. At this time the symptoms were as follows: moderate dyspnea on exertion, slight cough attended with scanty mucous expectoration; some cyanosis of lips and finger-tips; otherwise the patient appeared fairly well nourished.

Examination of the organs of the chest disclosed the following conditions: The lungs were normal. *Inspection* of the precordium showed a very slight displacement of the apex to the left of its normal position and a strong pulsation at the third left interspace, about ½ inch from the sternum. *Palpation* gave a very marked diastolic thrill over the third left interspace close to the sternum. *Percussion* indicated 1 inch enlargement of the right heart. There was little, if any, enlargement of the left heart. *Auscultation* revealed normal first and second sounds over the apex and the aortic area. The pulmonic first was quite accentuated; the second pulmonic was replaced by a loud blowing, diastolic murmur. The point of maximum intensity of the murmur was over the third left interspace. The course of the murmur extended from the second to the fourth left interspace along the left edge of the sternum, where it abruptly stopped. The pulse was full, regular and 80 to the minute. The pulse remained the same with the arm in the upright as in the *horizontal position.*

On these physical signs the diagnosis of pulmonary insufficiency was made. This diagnosis has been strengthened by the same findings on repeated examinations.

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* Patient presented before the Clinical Society of the New York Post-Graduate Medical School, October, 1912.

[1] Hirschfelder, A. D.: Diseases of the Heart and Aorta, Second Edition.

Besides the direct signs pointing unmistakably to pulmonary regurgitation, the diagnosis could be made with certainty by the process of exclusion.

Aortic insufficiency simulates pulmonary insufficiency in so far as it is characterized by a diastolic murmur which is heard at times over the pulmonic area and almost always over the fourth left interspace close to the sternum. But the aortic diastolic murmur is frequently heard over the aortic space as well as at the ensiform cartilage. No such transmission of the murmur existed or exists in this case.

Aortic insufficiency shows hypertrophy of the left heart; in this patient the right heart showed enlargement, scarcely any in the left.

Aortic insufficiency is associated with a jerking and collapsing pulse; here the pulse is normal. Aortic insufficiency produces throbbing of the carotid arteries and capillary pulsation; these are conspicuously absent in this case.

lesions of the heart, but under such circumstances the aortic and mitral valves are the target.

Ulcerative endocarditis is given as a cause for pulmonary insufficiency, but a history of that affection is lacking here.

Finally the regurgitation may be of congenital origin. If that were the case, however, one might reasonably expect another, associated, congenital lesion also; but even though we disregard that occurrence, the dyspnea, cough and cyanosis, which troubled the patient when she came for treatment, came rather late in the life of the lesion.

Further data concerning the case:

Blood-pressure: Systolic 110, diastolic 70; Wassermann negative (Post-Graduate Laboratory No. 1642); examination of blood (Post-Graduate Laboratory No. B-1633); erythrocytes 4,500,000 per c.mm.; hemoglobin 90 per cent. (Tallqvist instrument used); differential count (number of cells counted, 100); polynuclears 72; lymphocytes 21; mast-cells 1.

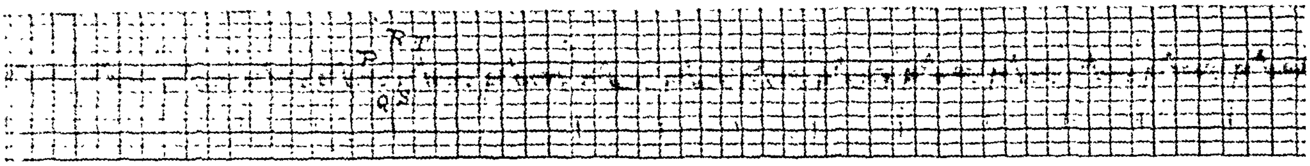

Fig. 1.—The electrodes are applied to the right and left arm and this arrangement is called Lead 1. (In all the records the space between the perpendicular lines equals one-fifth of a second in time, the space between the horizontal lines represents 2 mm. and a deflection of 10 mm. requires one millivolt of current.) The QRS complex is downward or negative.

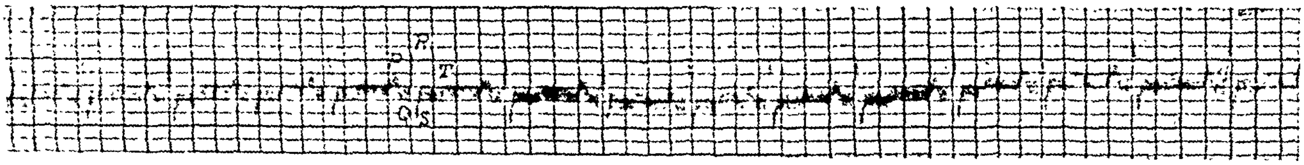

Fig. 2.—The electrodes are applied to the right arm and the left leg. The QRS complex is upward or positive.

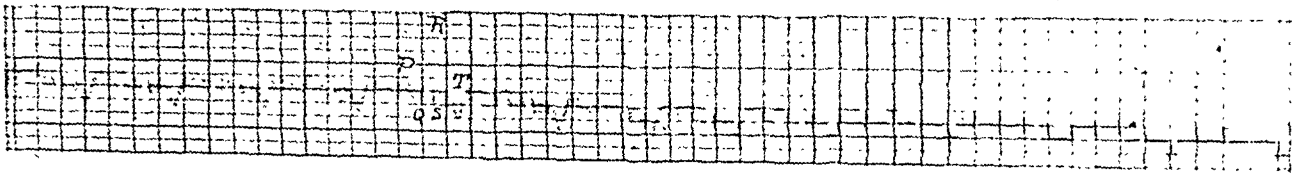

Fig. 3.—The electrodes are applied to the left arm and the left leg. The QRS complex is upward or positive.

The next condition to exclude is a functional disturbance of the heart or deterioration of the blood, each giving rise to a functional or hemic murmur over the pulmonic area.

The presence of a diastolic thrill argues conclusively against such an assumption. Besides, except in rare instances of great loss of blood, a functional or hemic murmur is invariably systolic in time, and its line of transmission is upward instead of downward. The blood-count, as stated later, practically disproves the theory of anemia.

The cause of the pulmonary insufficiency in this patient is unknown and unaccountable. There is no history or evidence of venereal infection. The Wassermann test proved negative. Besides, luetic infection produces by preference deformity in the aortic valves. Neither is there a history of any other infection like typhoid, scarlatina, diphtheria or influenza. The only evidence of rheumatic infection is the occasional mild pain in the joints coming and going. Such pain, in my experience, is frequently associated with serious

A roentgenogram showed the enlargement of the right heart. The amount of enlargement tallied exactly with that found by percussion and my method of auscultation.[2]

Abdominal viscera and pelvic organs were in a state of perfect health. The tracings were made by Dr. Robert H. Halsey of the New York Post-Graduate Medical School and Hospital, to whom I desire to express my sincere thanks. Dr. Halsey's interpretation of the electrocardiograms is as follows:

"Two electrocardiograms were taken from patient Mrs. J. S. at intervals; they were identical. The interpretation of the curve depends on the identification of the deflections P, Q, R, S and T in the three leads. It is most important to identify R, whether it is to be considered a positive (upward) deflection or a negative (downward). The general rule established by Einthoven is: $R_2—R_1=R_3$. Applying this we find R_1 to be greater than R_2; hence R_1 is to be a negative deflection. A reversed or downward deflection of R_1, when the heart is in the normal position with some enlargement to the right, is to be regarded as due to hypertrophy of the right ventricle."

257 West Eighty-Eighth Street.

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[2] Abrahams, Robert: The Delimitation of the Heart by a New Method, Arch. Diag., April, 1912, p. 130.

THE "NEW HEEL"

WITH A PATHOGNOMONIC SIGN FOR DETECTING INFLAMMATORY LESIONS IN THE ANTERIOR ARCH OF THE FOOT

MAX STRUNSKY, M.D.
NEW YORK

The most frequent of all causes for painful feet is inflammation in the anterior arches. Of the sufferers who come for relief for foot conditions, the women patients especially—shall we say 100 per cent. of them?—have strained or broken-down anterior arches. It is, of course, true that in a great number of these cases the longitudinal arches are flattened also, so that there is pain in the foot due to stretching of ligaments and spasm of muscles; but still the inflammatory lesion, which is the main cause of the distressing symptoms, is situated usually in the anterior arch of the foot. I have seen a great number of cases in which the patients have worn all kinds of plates for years for their foot troubles, although their longitudinal arches were even normal—that is, as normal as they can be in shoe-wearing persons—and of course their plates ended where the real trouble commenced, so that while the longitudinal arches were supported and treated for years, the anterior arches, in which lay the site of the lesion, were left to themselves, unrecognized and untreated.

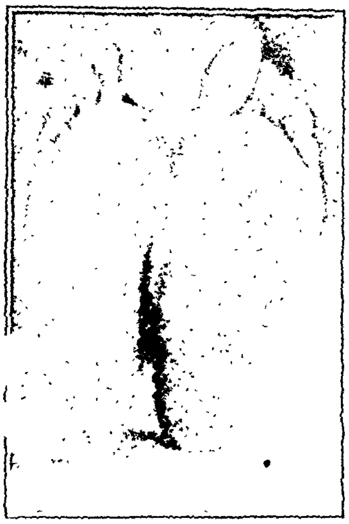

Fig. 1.—The "new heel." The most common deformity.

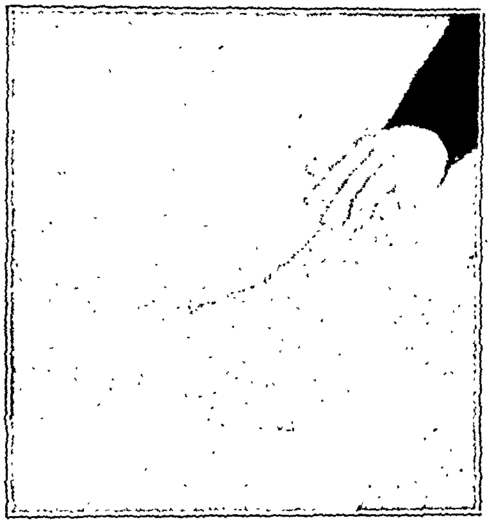

Fig. 2.—Position of patient and examiner in pathognomonic test for anterior arch lesions.

ETIOLOGY OF THE "NEW HEEL"

The heel is the strongest part of the foot, and is constituted to carry the main bodily weight. The high-heeled shoes which women wear, however, practically compel them to walk on the heads of the metatarsals. Thus every time they take a step they jam the metatarsal heads on the ground. This carries with it an element of traumatism which, when cumulative, often results in an inflammation in the metatarsophalangeal joints of which the anterior arches are mainly composed. Not only does this inflammation affect the soft parts of these joints, but also, as often proved by skiagrams and operations on the foot, the periosteum and the cancellous portion of the bones are involved.

High-heeled shoes compel the anterior arches to assume the function of weight-carriers, which modifies them into weight-carrying structures or heels. Metatarsal walking increases the size and strength of the anterior arches and changes their flexibility and elasticity, which is essential to a normal gait, to rigidity which is essential to a weight-carrying structure. The anterior arches also become prominent and bulge on the plantar surface and are covered with callosities. In short, not only do the anterior arches perform, under pressure of the additional burden, the function of heels, but they acquire all the characteristics and every semblance of heels (Fig. 1).

DIAGNOSIS

The diagnosis is self-evident when the new heel is developed. In this, however, as in all other forms of flat-foot, the amount of deformity is not always in proportion to the amount of pain. In fact, the painful stage usually comes before the appearance of deformity. Since the patient's symptoms may be very severe in this stage, while his arches look normal, there is danger of overlooking the trouble. Pain in flat-foot is due to a great many causes: the stretching of ligaments, spasm of muscles, inflammation of joints, the grinding together of small bones as they form new facets, and the accompanying periostitis. The reflex pains so often distressing in flat-foot are due to the inflammation involving the peripheral nerve-endings and also to pinching of nerves by the grinding bones. Naturally, also, the patient spares the inflamed portion of the foot, so that he strains certain groups of muscles; this, too, is a cause of pain.

These processes are most active in the early stages. In the chronic stage, hyperstretching destroys the elasticity of the ligaments, ankylosis cures the inflamed joints, the bones form new facets and are comfortable in their new position. Consequently, pain ceases in the chronic stage though deformity and impaired function has reached its maximum. A sign of anterior arch trouble, which after a great number of tests I am convinced is pathognomonic, is elicited in the following way:

The examiner grasps the toes of the patient and flexes them suddenly (Fig. 2). Sudden flexion is painless in the normal foot, but is extremely painful if there is inflammation in the anterior arch. The patient need not be asked if the act gave him pain, for a spasm of suffering sweeps over his face when it is done. Also the severity of pain is in direct proportion to the severity of the inflammation. The explanation for this test is that in disease of the anterior arch the patient unconsciously holds the toes extended. This position gives to the metatarsophalangeal joints the maximum space to accommodate the inflammatory product which is present when there is trouble with these joints. When the toes are flexed, however, the spaces in these joints are suddenly lessened, which causes an increase of intra-articular pressure with distention of the capsules, etc., which of course is very painful. This sign is especially valuable, as it is present in the early stage of anterior arch inflammation long before the appearance of the deformity. The sign is absent only in very old and chronic cases. In these, manipulations are painless because, as was explained above, the trouble has progressed beyond the point of pain.

It should also be remembered that the metatarsophalangeal joints are subject to a great many diseases. Because of the traumatism which high-heeled shoes inflict on these joints, their vitality is inevitably lessened, and they form a favorable soil for the deposits of various infections or toxins that may lodge in the system. Thus a primary joint lesion of either syphilis, gonorrhea or any of the countless forms of osteo-arthritis may appear in these joints. An example of this is shown in the accompanying skiagram (Fig. 3).

TREATMENT

In the acute stage of anterior-arch inflammation the patient must be off his feet entirely. When this is impossible the anterior arches can be supported by felt. The benefit derived from this is due not only to the fact that the fallen arch is restored to its normal position, but also to the removal of some of the bodily weight from the affected parts because the felt raises the front part of the foot. When the inflammation is confined to one or two joints, relief sometimes is obtained by cutting a central opening in the felt and supporting the region around the affected part. Heat relieves pain temporarily, at least, and produces hyperemia, and is given either in the form of hot foot-baths (best effervescent) or baking.

In the chronic stage an anterior arch-support can be built into the shoe, or if there is a concomitant flattening of the longitudinal arches, a plate can be made having a metatarsal support as well. Often, however, the best results are obtained by simply lowering the heels of shoes. Foot gymnastics are also of value in the chronic stage, especially extreme flexion of the toes. This movement relaxes the toe flexors, which in this disease are stretched permanently, and stretches the toe-extensors, which are contracted. It also elevates the fallen anterior arches to their natural position, and has a tendency to increase the elasticity of these often rigid and ankylosed joints, besides strengthening the weakened muscles.

The first step naturally in the treatment of these cases is a change in shoes. Shoes are prescribed which have wider toes, broader bases, lower heels, etc.; but the patient often feels more uncomfortable in these more sensible shoes than in the conventional type. I used to explain this anomaly as due to the force of habit, as something akin to the discomfort that the old-time galley-slave felt when he missed the sense of tightness and weight when his chains were removed. The discomfort caused by the change in shoes, however, does not easily wear off, as is usually the case with discomfort caused by a mere change of habit, and there are physical reasons underlying it. The explanation of this discomfort is as follows: The longitudinal arch descends when the weight is on the foot, and immediately springs back when the foot is lifted from the ground. The prominent arches of the conventional shoes permanently support and practically immobilize the arches of the foot and prevent their upward and downward excursions. In the orthopedic type of shoe, on the contrary, the arch-supporter is not prominent, with the result that the arches of the foot, if the patient changes to that type of shoe, suddenly lack their accustomed support. The arches, weakened from their long disuse, lack the power to spring back by themselves, and having plenty of room, they fall; hence the stretching, discomfort and pain.

Also the low heel in this shoe throws a greater weight on the heel of the foot, which, weakened in high-heeled toe-walkers on account of partial disuse, cannot stand the additional burden without pain. Further, there is discomfort due to the hallux valgus, bunions, corns, etc., which are never-absent companions of the "new heel," for they rub against the inner wall of the more spacious toe in this sensible shoe, while they fit like a glove in the conventional shoe which was their original mold.

All this has a practical bearing on the treatment. The best way of strengthening arches and heels is to compel them to function. But if a radical change of shoe is made, functioning of the tissues is compelled to begin abruptly, and results in stretching and injury to the tissues. If, however, shoes are changed gradually, functioning begins gradually, which is physiologic in strengthening weakened tissues. The change, therefore, should be made gradual instead of radical.

Experience has taught that the stumbling-block in the treatment of this trouble is the difficulty that accompanied the change of shoes. Either because of the discomfort that orthopedic shoes give at the beginning or because they are "ugly," a great many patients refuse to submit to them, choosing rather to endure life-long suffering.

The Wolff law which says that acquired bone facets disappear and the original facets come back, without which process the successful treatment of those cases in which bone changes have taken place is an impossibility, formulates a phenomenon which can be attained only slowly. Notwithstanding the plasticity of the human foot it has taken the greater part of a patient's lifetime for shoes to convert the fronts of the feet into heels—and only step by step, with perseverance and intelligent cooperation, is it possible to reconvert troublesome heels into functioning front feet.

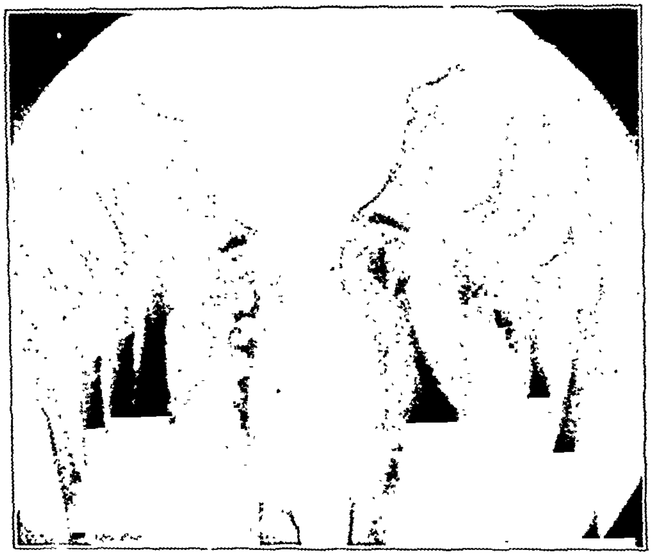

Fig. 3.—Arthritis deformans. The patient has for years suffered from broken-down anterior arches. As far as it can be ascertained he is free of this lesion in any other part of his skeleton.

24 West Forty-Fifth Street.

Graded Milk in New York.—According to the January *Bulletin* of the New York City Board of Health, the fundamental object of the grading system applied to milk in New York City is to extend the scope of pasteurization, which is said to be absolutely necessary in a great city drawing its milk-supply from many distant points. The graded system has resulted in the extension of pasteurization so that about 100 pasteurization plants are now in actual operation, including those in the city and country, and from one-third to one-half of the milk-supply is pasteurized.

A NEW OPERATION FOR HEMORRHOIDS

Robert A. Bachmann, M.D., Newport, R. I.
Surgeon, U. S. Navy, U. S. S. Delaware

This operation resembles the Whitehead inasmuch as in each operation a pile-bearing ring of mucous membrane is removed, but the method employed is so radically different from the Whitehead or any of its modifications that I have preferred not to call it by that name.

Eight pairs of curved hemostats and the same number of straight hemostats are required. The rectum is well dilated. Eight deep mattress sutures are placed well beyond the hemorrhoidal mass into sound mucous membrane at points corresponding to 12, 3, 6 and 9 o'clock and half-way between each of these—eight in all. Chromic gut is used. Straight hemostats are attached to ends of sutures left long.

Well out on the mucocutaneous junction place corresponding mattress sutures—eight in all—and attach curved hemostats to ends of sutures left long. Hemorrhoids are now between rows of sutures. Cut mucous membrane circularly around the internal row of sutures, avoiding the cutting of sutures. Next cut the mucous membrane circularly near skin sutures taking the same precaution. The entire pile-bearing area is now outlined and limited by two circular incisions. With blunt curved scissors dissect and cut free this napkin-ring of hemorrhoidal mucous membrane. A stream of hot saline solution facilitates all this cutting and reduces hemorrhage. Tie 12 o'clock suture in mucous membrane, held by straight hemostat to 12 o'clock suture in skin, held by curved hemostat; 6 o'clock mucous membrane to 6 o'clock skin, etc. Dress with tube.

The advantages of this operation are: (1) very little hemorrhage; (2) accurate and secure line of sutures; (3) scar well out near skin (a little contraction is beneficial if anything); and (4) in my experience no complaints of severe pain.

This procedure has been carried out in a number of cases.

HEMORRHAGIC DISEASE OF THE NEW-BORN INFANT TREATED BY HORSE-SERUM

Walter B. Jennings, Ph.B., M.D., New York

I wish to add a case to those of hemorrhagic disease of the new-born infant in the treatment of which blood-serum was used, as reported by Reichard, Perkins, Barringer and Claybrook.[1]

CASE REPORT

History.—Feb. 4, 1913, a female infant 4 days old came under my care. The child was well formed, weighed 8 pounds and was the sixth child. The mother died, three hours post partum, following normal labor. She was attended by another physician, who reported that she had suffered from pernicious anemia and valvular disease of the heart. The child was apparently well until the fourth day when, at 4 p. m., it vomited blood, which was bright red in color. The napkin used was markedly colored and the amount of blood lost appeared to be about 6 or 8 drams.

Feb. 5, 1913, at 5 a. m. the baby spat a teaspoonful of bright-red blood; at 8 a. m. bright-red blood was passed from the rectum, the amount of which was said to be about 1 ounce.

Treatment and Course.—At 8:30 a. m. an injection of 7 c.c. of normal horse-serum was given subcutaneously. At this time the rectal temperature was 100.2 F., pulse regular but so rapid that it could not be counted. After a quiet day, during which the baby had vomited its food but no more blood, at 5 p. m. another injection of 8 c.c. normal horse-serum was given. The rectal temperature at this time was 97.4 F. The child was given nourishment in the form of modified milk.

Feb. 6, 1913: The baby had a good night, sleeping well and taking its food without disturbance. The bowel movement was like tar, and the urine was stained with blood. The rectal temperature was 96.6 F. An urticarial rash appeared on the face, feet, legs and arms. At 8 p. m. the rectal temperature was 97 F. There had been no vomiting of blood.

Feb. 7, 1913: The baby had a good night and took its food well; the urine was not blood-stained; the bowels had not moved; the rash was fading; the cord was almost separated but no bleeding had occurred.

Feb. 8, 1913: The cord was completely separated, the surface being clean and normal, without hemorrhage. No bleeding had occurred for three days. The rectal temperature was 97.2 F. Feb. 19, 1913, the child was perfectly well.

On March 23, 1913, the frenum of tongue was cut to relieve the tongue-tie and no more than normal bleeding occurred.

The subnormal temperature together with the urticarial rash is worthy of mention in this case. The normal horse-serum was furnished by the Research Laboratory of the New York Board of Health.

140 Wadsworth Avenue.

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[1] The following articles appeared in The Journal, Oct. 26, 1912: Reichard, V. M.: Spontaneous Hemorrhage of the New-Born with Recovery, p. 1538; Perkins, M. J.: Diphtheritic Serum Used to Control Bleeding in a Hemophiliac, p. 1539; Claybrook, E. B.: A Case of Hemophilia, p. 1540, Barringer, D. S.: Unilateral Kidney Hemorrhage Controlled by Injections of Human Blood-Serum, p. 1538.

Therapeutics

MUSHROOM POISONING

Poisoning by this fungus is not at all infrequent, and consequently the treatment of this condition is worthy of careful consideration. In this country edible mushrooms found growing wild are gathered much more frequently than they used to be, both because of the example set by our foreign-born residents, and because of the greater demand for them as a delicacy in hotels and restaurants. Mushrooms are also cultivated, and a certain variety brings a good price. It is perhaps rare for the poisonous varieties of mushroom to be dispensed by a hotel or restaurant, the greatest care being exercised in deciding that the product offered is edible, that is, nonpoisonous; but children sometimes obtain and eat the poisonous mushroom, and private families occasionally cook and serve it.

The mushroom is rich in nitrogen, but it is uncertain how much of this nitrogen can be utilized as a food; it is said to be absorbed only in small part, and is likely, during its digestion, to cause some gastro-intestinal irritation in many persons. As a nutrient the mushroom is of little value, since a large proportion of it is water.

Over two thousand varieties of mushrooms have been described, some of which are harmless, and others exceedingly poisonous. Gibson[1] considers that the usual methods of distinguishing between edible and poisonous varieties are unreliable, and suggests the following considerations in the determination as to their value: "1. Avoid every mushroom having a cup, or suggestion of such, at its base; the distinctly fatal poisons are thus excluded. 2. Exclude those having an unpleasant odor, a peppery, bitter or other unpalatable flavor, or tough consistency." The *Amanita muscaria* and the *Amanita phalloides* are regarded as among the most poisonous, and contain the active principle muscarin or amanitin. The *Amanita muscaria* is "distinguished by its bright-orange or red pileus [cap] covered with soft, fugacious, whitish warts, its white, rarely yellowish lamellae [gills], and its white floccose stipes [stem], bulbous at the base and bearing, at its upper attenuated extremity, a white ring."[2] The common edible mushroom is the *Agaricus*

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[1] Gibson, W. Hamilton: Our Edible Toadstools and Mushrooms. Harper & Brothers, 1903, p. 33.

[2] Foster, Frank P.: Medical Dictionary, under Agaricus, i, 108.

campestris, belonging to the subvariety of *Psalliota*, "distinguished by the silky floccose or finely scaly pileus, the somewhat reddish tint of the flesh, and the pinkish lamellae changing to a dark brown. There are many varieties, some of which are cultivated on a large scale, especially in France."[2]

All fungi after being picked are prone to rapid decomposition. Some of the poisonous constituents in edible mushrooms due to decomposition, and some of the poisonous constituents of non-edible fungi may be destroyed or dispersed by heat, especially if thoroughly cooked. Many of the products of decomposition, however, and the poisons in poisonous mushrooms are irritant to the gastro-intestinal tract and poisonous to the nervous system. Some persons are more or less seriously poisoned even by edible mushrooms that are not fresh, and there are persons who have an idiosyncrasy for all mushrooms or for certain varieties.

The alkaloidal poison of the *Amanita muscaria* termed muscarin, closely simulates in its molecular constitution cholin, which is a constituent of some animal tissues, and under certain conditions is set loose in the intestine and acts as a nervous irritant. This alkaloid muscarin, which is the constituent of non-edible mushrooms that causes poisoning, resembles in its physiologic action pilocarpin, although it is a very much more active poison.

After one or more poisonous mushrooms have been eaten, rarely will there be nausea and vomiting within a short time. Generally the absorption of the toxin does not take place until after the mushrooms have entered the intestine. Symptoms of poisoning do not occur for several hours after the mushrooms have been eaten; then pain, cramps, reflex vomiting and watery purging are likely to occur. If much of the poison has been absorbed before this local irritation takes place, symptoms of central poisoning occur, as noted by quickened pulse, rapid respiration, dizziness, muscular tremblings, and perhaps signs of intoxication bordering on confusion and delirium. The pupils are contracted. If the poisoning is more serious, the respiration and heart fail and the patient may die in collapse, consciousness generally not being lost. As in pilocarpin poisoning, there is a more or less profuse perspiration, and a free flow of saliva and bronchial mucus. This profuse perspiration and the watery stools cause great thirst and prostration.

If for any reason an insufficient amount of the poisonous mushroom has been ingested to cause gastro-intestinal irritation, before purging begins a sufficient amount of the toxin may have been absorbed to cause the nervous symptoms to be the most important and prominent. This kind of poisoning does not occur until eight or ten hours after the ingestion of the mushrooms. In this form of poisoning the most troublesome symptoms are vertigo, disturbed vision, irregular and weak pulse, and muscle twitchings or actual rigidity. The extremities become cold and the face becomes pale or bluish; there may be collapse, and later semiparalysis. In these instances of late poisoning there may be drowsiness and stupor as well as intense dyspnea. A greatly impaired circulation may be the cause of this cerebral condition, as coma is probably not a part of true muscarin poisoning. When the symptoms of poisoning appear late, as just described, showing that a large amount of the toxin has been absorbed before vomiting or purging has protected the system, the prognosis is much more serious.

The treatment of mushroom poisoning depends somewhat on the time when the symptoms occur. If they occur soon after the ingestion of the mushroom, a brisk emetic is the first treatment; the choice of an emetic, whether zinc sulphate, ipecac or mustard water, is a matter of unimportance, provided that the stomach is emptied. As soon as the stomach is emptied by the emetic, or by vomiting without the aid of an emetic, large draughts of hot water or flaxseed tea, slippery-elm tea or starch water should be given to wash off and sooth the mucous membrane. As soon as the stomach is quiet and the vomiting has ceased, a cathartic should be given; none is better than castor oil, as it is stated that an oil does not dissolve the toxic principle or promote its absorption. An ordinary dose of castor oil would be 30 c.c. (an ounce), given in the manner the least disagreeable to the patient. If the oil is not retained long enough to have passed into the intestine, a saline, as magnesium sulphate or sodium sulphate, may be given.

Alcohol in any form should probably not be given, as it may promote the absorption of the toxin. Strong coffee, however, is indicated. Hot, dry applications to the body, friction of the extremities and a hot-water bag at the feet tend to prevent shock and depression from this nerve poison.

The physiologic antidote to muscarin is atropin, which should be administered immediately, hypodermatically; 1/100 grain should be given, perhaps combined with 1/30 grain of strychnin, both of which drugs act also as circulatory stimulants. If the collapse is prolonged, the strychnin may be repeated within three or four hours. The atropin may be repeated in five or six hours, and to offset a prolonged collapse, some form of digitalis may be given, either by the mouth or hypodermatically. It should be remembered that digitalis acts slowly, and will be of little value for from six to ten hours. The value of camphor, given subcutaneously, as a cerebral and circulatory stimulant should be remembered. The contents of an ampule containing a saturated solution of camphor in sterile oil should be administered subcutaneously every hour for several doses, if needed. The coffee, or caffein, should also be repeated.

Death may occur after two or three days from mushroom poisoning; therefore, even with apparent improvement, the patient should be kept at rest and all care be taken that sudden collapse does not occur.

If the vomiting persists, or the diarrhea becomes too profuse and continuous, the sedative and soothing action of bismuth subcarbonate should be utilized, and soothing, mucilaginous warm drinks should be given. A bland, warm cereal should be the first food given. As previously stated, the patient is likely to be thirsty and crave cold liquids, but it is better that he receive warm liquids.

If the vomiting becomes serious, or the purging is not tractable, and especially if there is severe pain, a hypodermatic injection of a small dose of morphin should be given. The liquids taken, either on account of thirst or for sedative purposes or as foods, soon promote elimination by the kidneys, especially if the blood-pressure has been improved and collapse is not in evidence.

The prognosis is usually good in mushroom poisoning, though the patients are very ill for a few hours or days.

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THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, APRIL 12, 1913

SCIENCE AND THE AGRICULTURAL EXPERIMENT STATIONS

It is only about twenty-five years since Congress passed the Hatch act founding the system of agricultural experiment stations in this country. This act, supplemented by subsequent legislation, has brought the annual federal grant to each state up to $30,000, a nucleus to which the states themselves have in many cases added contributions in a liberal way. Those less familiar with the work which is actually accomplished by means of these great research foundations often think of it solely as an attempt to further the interests of the practical farmer. Indeed, the institutions were founded "to promote scientific investigation and experiment respecting the principles and applications of agricultural science"; but the trusts have been broadly administered, and the scope of the work extends far beyond the boundaries of the farm into the most diverse phases of human activity and concern. In more than one way have the researches bordered on the field of human health and given answers, suggestion or impetus to medical problems.

The lessons of this imposing movement in agricultural research and education are manifold. The American experiment stations have demonstrated the solidarity of the different sciences. Their successes have taught the important lesson that no one can foretell what beneficial results may develop from highly specialized researches, and they have fostered a spirit of popular interest in the progress of science quite beyond anything that could have been expected two decades ago, when empiricism still reigned supreme and distrust of the utility of scientific investigation was wide-spread. The organization of the stations is teaching a further lesson which sometimes needs to be brought home in the domain of medical research: it is the necessity of translating into practice the work of the laboratory, of trying out the principles and hypotheses of the investigator in the crucible of experience.

We are led by the perusal of a recent report of the work of the Wisconsin institution[1] to refer to the intimate relations, both direct and indirect, which our experiment stations bear to the conservation of health and the problems of human nutrition. Out of the forty or more problems recently made the subject for study, several have a distinct interest to the medical profession either because of their direct bearing or because they suggest the way to meet some of our difficulties. Foremost, perhaps, are the interesting investigations to which we have already referred[2] on the effects of rations restricted to single plant sources. Animals were fed balanced rations from the corn, the oat and the wheat plant. As they reached physiologic maturity it became evident that the ration from the wheat was strikingly deficient, the wheat-fed mothers producing either dead or weak, undersized offspring. In following up the cause of the disastrous effects of the wheat ration it was found that the deficiency of the wheat plant is not due to toxicity of any part of the plant, but rather to the *acid conditions imposed on the animal,* caused by an insufficient supply of lime and other alkaline substances in the roughage. The deficiency was overcome by the addition of alfalfa hay, which is especially rich in these base-yielding constituents. The bearing of this on the dangers which may lurk in so-called one-sided dietaries in man when the range of the food materials is limited in variety, at once becomes apparent.

Other Wisconsin researches relate to the mineral requirements of farm animals, particularly the need of calcium and phosphorus. The assertion has often been made that feeding to pregnant animals a ration high in mineral matter, especially lime, will cause undue development of the skeleton of the fetus, with subsequent difficulty at birth. The problem was thoroughly studied by feeding brood sows rations rich in calcium. The results show that no such thing occurs, but that the size and lime-content of the fetus skeleton is kept very constant when widely different amounts of lime are consumed in the food. Incidentally it was observed that a large consumption of food, such as is customary in an animal on which the demands of lactation, etc., are considerable, leads to the loss of a large amount of lime from the body in the feces, with the correspondingly large fecal residue. The desirability of liberal supplies of lime in the ration under such conditions is thereby emphasized. Other studies by Professor McCollum, who has been responsible for many of these valuable contributions, indicate clearly that not only must sufficient amounts of the necessary mineral elements be supplied, but also there must be a proper balance between them, a fact hitherto not sufficiently recognized. And when to these inquiries into the laws of nutrition are added the Wisconsin trials regarding the rôle of the plane of protein feeding on the efficiency of rations for growth, it will be seen how closely these studies approach the fields of interest to the student of human nutrition. Indeed, we are always dependent on animal experimentation for the preliminary investigation of certain far-reaching human problems. The inclusion of the farm animals in the plan of experimentation thus doubly serves a beneficent end.

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[1] Report of the Director, 1911-1912, University of Wisconsin Agr. Expt. Sta., Bull. 228, January, 1913.

[2] Unappreciated Factors in Diet, editorial, The Journal A. M. A., March 2, 1912, p. 637.

Reference may also appropriately be included here to numerous other lines of research in progress at Madison. The problems of the bacterial and chemical factors in the ripening of cheese are of great economic and dietary importance; and the work represents a step in the direction of discovering the secrets of the empiric methods which have been sanctioned by the experience of generations. Precisely as the improvement in the quality of market milk has been accompanied by a greater uniformity of the product and a dependability on some of its important properties, so it is now hoped to establish uniform methods of cheese manufacture in which pasteurized milk and pure culture starters have their place.

Animal diseases, never without concern to mankind, are also being investigated. Avian tuberculosis has been found quite widely spread throughout Wisconsin. Unlike the mammalian form of the disease, it is primarily an affection of the liver and spleen. The experiments indicate that the disease is contracted mainly through feeding, that it can be transmitted from fowls to such mammals as swine, and that the close contact of healthy and diseased birds will transmit the infection. The main danger, therefore, as with the disease in cattle, is in introducing diseased stock into the flock. Unfortunately, the owner cannot safeguard the condition of his flock by applying the tuberculin test to his purchases, as he can with cattle.

The state of Wisconsin is to be congratulated on having enlisted into its service a group of efficient investigators who are fulfilling in their local sphere the expectations of the great national research foundation. In other states this story can be found repeated. By their quiet, modest labors and persistent patience in the field and the laboratory these untiring workers are doing quite as much for the highest welfare of their state as are those who shine conspicuously in the halls of legislation.

RURAL ORIGIN OF CITY TYPHOID

We are coming to the season of the year usually marked in our cities by the annual spring rise in the curve of typhoid frequency, attributed to infectious materials carried by freshets into water-supplies. The whole question of the origin of typhoid fever becomes of special interest at this time, and as there has recently been a protest against what is called the rural origin of typhoid, the subject deserves particular consideration. Dr. Bolduan, assistant to the general medical officer of the Department of Health of the city of New York, who has for ten years been in charge of the investigation of the origin of all cases of typhoid fever occurring in New York City, read a paper before the American Public Health Association last fall on the rural origin of much of the typhoid fever in large cities and the need of reorganizing rural public health administration. It has just been republished as a separate pamphlet by the New York Health Department. Bolduan's conclusions merit serious attention.

While typhoid is usually considered to be mainly, if not almost entirely, a water-borne disease, and while there is no doubt that drinking-water has been responsible for the great majority of cases in large cities, the water seems to be slightly, if at all, responsible for typhoid in New York. The proportion of cases to the population of the five boroughs of Manhattan, the Bronx, Brooklyn, Queens and Richmond, is about the same, though each of the boroughs has a special water-supply with different conditions. The typhoid rate is about the same in districts supplied with artesian well-water as it is in those which have a surface water-supply. Evidently, other factors common to all the boroughs are the source of the typhoid infections, and the water-supply has probably but little to do in producing them.

The more carefully the sources of New York's typhoid infections have been studied, the more frequently has milk been discovered to be the chief vehicle of infection. In spite of great reforms in this matter in the last few years, this still remains true. Efforts at control have resulted in decided improvement, but the education of the dairyman is a slow process, and dairy farming is still largely in the hands of the ignorant. After milk the most common source of typhoid fever in New York is infection of the patient while out of town. According to the records, about one-quarter of all New York's typhoid infections are of this origin. Dr. Bolduan does not hesitate to say that while it is impossible to give any exact figures, he feels that, including milk, water, out-of-town residence, etc., over half of the typhoid infections are of rural origin. He adds, "Excepting those communities where the drinking-water is derived from an infected lake or river near the city, or whose sewage disposal is unsatisfactory so that fly-infection is prevalent, this probably applies to most other American cities." It has recently been denied that typhoid is a rural rather than an urban disease; and while the relation of deaths from typhoid fever to regional population, as shown in crude statistics, would seem to prove this, the falsity of the contention has been shown by tracing city typhoid fever cases to their sources, as Dr. Bolduan has done.

It is evident that any attempt on the part of New York further to reduce the incidence and the mortality of typhoid must take into consideration as a prime factor the question of securing the lessening of typhoid in the country places from which water, milk and food are drawn. During the past three years there have been an average of about 3,500 cases of the disease in the city, and about 550 deaths. This is too large a death-rate to be neglected further, and every effort must be made to lessen it. A commission appointed by the governor of

New York reported that the health of the larger cities as well as of the country places of the state would be greatly benefited by the introduction of a system of state control of health outside the cities. As it is, local health authorities in small towns and country places are usually inexpert and are paid so poorly that they have to devote themselves to other occupations for a living, and health matters are neglected. State control would bring experts into the service, and what has been accomplished in the Canal Zone by direct government control of sanitation, and in the quarantine of this country by the United States Public Health Service, shows how much the presence of experts with ample sanitary authority can accomplish for health.

The problem in New York is the same as that in other states, and the experience there may well be taken as a ground for similar developments in legislation throughout the country. As our knowledge of sanitation grows, we realize more and more that the health of the individual depends largely on the community in which he lives, and that the health of a community depends to a great extent on the health of other communities having commercial and other relations with it. We have applied this principle in quarantine regulations against foreign countries and cities liable to import infectious disease, but it would be impossible to quarantine properly against unhealthy communities of small size in the same state. It is, therefore, all-important to secure by general legislation such control over the health of smaller places as will assure large cities from being contaminated by them in the course of commercial relations. Properly directed, this will not inflict a burden on the smaller communities, but on the contrary by improving their health will prove of the greatest possible benefit to them. State control of details in health matters and national control of important health movements would soon do for the country as a whole what Colonel Gorgas, with sufficient authority, has been able to accomplish for the Canal Zone.

ACETIC ACID AND ACIDOSIS

Before the intricacies of certain pathologic manifestations, such as are exemplified in acidosis and ketonuria, can be adequately explained, it will be necessary to broaden our knowledge of what is now commonly spoken of as intermediary metabolism. We shall need to know the story of each digestion fragment as it travels through the organism after leaving the alimentary tract. When the forerunners of the various abnormal products that now and then put in an appearance in the excretions of the body are accurately known, progress will be more rapid and satisfactory. The stages in the normal disintegration of the fats, carbohydrates and proteins must be learned so that faulty processes can be recognized by their products and referred to their real defects.

A new method of study has been drawn into service in recent years to render assistance in this difficult task. By perfusion of individual organs, such as the heart, lung, kidney or liver, it has been possible to restrict the enormous number of variables that enter into the problem of metabolism in any study of the organism as a whole. The blood driven through an isolated liver, for example, may be analyzed before and after the process. Various chemical compounds can be added to the perfusion fluid, and the fate of these on the one hand, as well as their effect on the tissues on the other, can be ascertained in an experimental way. The catalogue of results already ascertained in this way is no longer a small one.[1] The liver has been a favorite organ for study for reasons that are in part obvious. Its large size, its presumable superlative importance and its accessibility have encouraged the frequent use of this organ.

Recent observations carried out by this method of artificial perfusion in Embden's laboratory in the municipal hospital at Frankfort-on-the-Main throw some light on the possible rôle of acetic acid in some of the intermediary processes. That it may represent a stage in the transformation of fats has been rendered probable by earlier researches, and it is not at all unlikely that the amino-acids derived from proteins may lead in the same direction. For it is now settled beyond a probability that aceto-acetic acid can arise from both fats and proteins; and acetic acid appears to be an intermediary transformation product common to all the foodstuffs.

A. Loeb[2] has lately shown that the addition of acetic acid to fluids perfused through surviving liver greatly increases the production of aceto-acetic acid that can be initiated in this manner. This fact may be of more than incidental practical significance. It appears from available records that acetic acid is sometimes found in magnified quantities in the urine of diabetics. Rumpf[3] has reported the presence of as much as 5 gm. per day in one case. These combined facts, namely, the alleged elimination of acetic acid in cases of diabetes and the demonstrated augmentation of the formation of diacetic acid (aceto-acetic acid) in surviving livers in the presence of acetic acid indicate that the latter may have an unfavorable influence on the disease in promoting acidosis or ketonuria.

Loeb suggests that any procedure which will avert the formation or retention of acetic acid may have a beneficial effect in the direction of therapy. The precise method of accomplishing this is not yet apparent. In any event, it seems rational to warn diabetics in whom acidosis is evident against the undue ingestion of acetic acid.

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[1] Compare Dakin, H. D.: Oxidations and Reductions in the Animal Body, Longmans, Green & Co., New York, 1912.

[2] Loeb, A.: Ueber das Verhalten der Essigsäure bei künstlicher Durchblutung der Leber, Biochem. Ztschr., 1912, xlvii, 118.

[3] Rumpf: Berl. klin. Wchnschr., 1895, Nos. 31-32.

THE URINARY EXCRETION OF FAT

Protein, carbohydrate and fat are all recognized as constituents of the urine under pathologic conditions, and their occurrence in this excretion has a distinct diagnostic significance. It is chiefly when the question of the appearance of these "proximate principles" in the urine in conditions of health is under discussion that any serious difference of opinion arises. Whether a "normal" urine may contain minute traces of protein or of sugar has been debated at various times. The quantities present, if there be any, are so small that extreme refinement of technic and accuracy of judgment are called for in detecting them with certainty. Nevertheless, in view of the decided importance which is attached to the finding of small amounts of protein or of sugar in a clinical way, it becomes the more important to know the quantitative features of the subject — to determine the limit between the elimination which may be termed normal and that which approaches the pathologic. Not infrequently, for this reason, one hears reactions for protein or sugar characterized as unsuitable clinical tests because they are "too delicate"; that is, they reveal amounts of these compounds which are in no sense pathognomonic.

To point out where lies the border-line between the supposed physiologic and the objectionable pathologic content of these two substances in the urine is not the object of this discussion. We call attention rather to the less familiar facts in regard to the occurrence of fats in the urine. In chyluria, as is well known, the content of fat thus excreted may be not inconsiderable. How about the urine in other abnormal conditions or even the urine of healthy man? Here again difficulties of an analytic nature confront the investigator. It will not answer to examine the urine by the conventional method of extraction with fat-solvents like ether; for other urinary constituents such as hippuric acid may interfere, owing to their solubility in these organic solvents. Special methods of examination are called for.

The occurrence of very small amounts of fat in normal human urine has been described by competent observers.[1] The very fact that the quantities thus reported are exceedingly small calls for careful critique and the exclusion of possible sources of error. The topic has been reinvestigated in Professor Kumagawa's laboratory in Tokyo.[2] The results obtained with healthy Japanese indicate not only individual variations in the subjects, but also inequalities from day to day. In any event the amount of fat excreted in the urine per day under ordinary conditions does not exceed 0.02 gm., or 1/3 grain. When the ingestion of fat was decidedly increased, so that the individual ate from 225 to 250 gm. (from 7 to 8 ounces) per day — a quantity not regarded as excessive in some dietaries — the maximum urinary output was 0.034 gm. (1/2 grain). The increase was unquestionable, yet in relation to the total intake it shrinks into insignificance.

An investigation of the urinary fat in diverse pathologic conditions has not disclosed anything of unusual interest or import. Formerly it was supposed that the fat found in cases of kidney disease was derived from epithelial cells that had undergone "fatty degeneration." This factor may presumably be excluded. The data actually obtained from nephritic patients are variable, and it is probable that the few added milligrams of fatty material found in the urine are determined by an altered permeability of the renal blood-vessels.

In other diseases — diabetes, phthisis, icterus and hepatic cirrhosis — for which a renal elimination of small amounts of fat has been conjectured or reported for various reasons, nothing unusual was found by Sakaguchi. This statement likewise applies to persons with fractures of the bone or in cases of resected bones, despite the published statements regarding the occurrence of fat emboli and the excretion of fat droplets in the urine in such conditions. In view of all these newer facts one is impressed with the adequacy of the kidneys in preventing any noteworthy losses of the valuable fat from the blood-stream, precisely as they are normally impermeable to the circulating sugar and proteins.

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[1] Mörner, K. A. H.: Skandin. Arch. f. Physiol., vi, 332. Hybinette, S.: Ibid., vii, 380. Kakiuchi, S.: Biochem. Ztschr., xxxii, 137.

[2] Sakaguchi, K.: Ueber den Fettgehalt des normalen und pathologischen Harns, Biochem. Ztschr., 1913, xlviii, 1.

PAVY AND DIABETES

The name of Frederick William Pavy, who died in September, 1911, is almost exclusively associated with his work on diabetes and carbohydrate metabolism. He was the first to describe cyclic or orthostatic albuminuria (1885), and is remembered by his substitution of ammonia for caustic alkali in Fehling's solution (Pavy's blue fluid), and by the rare arthritis in typhoid fever known as "Pavy's joint"; but from the date of his first paper on "Saccharine Matter" (1853) his whole life was practically devoted to an endeavor to confute Claude Bernard's hypothesis that the liver is the great storehouse of utilizable sugar in the form of glycogen.

Considerable light has recently been thrown on Pavy's attitude to this problem in the sympathetic studies recently published by his colleagues at Guy's Hospital, Drs. F. Gowland Hopkins[1] and Frederick Taylor.[2] While in Paris, in the early fifties, Pavy had met Claude Bernard and assisted him in his laboratory at the Collège de France. It will be remembered that Bernard's initial experiment consisted in examining the blood in the hepatic veins of a killed animal which had been extensively fed on carbohydrates. The blood was found to be loaded with sugar, not only in this case but also later in animals fed on meat alone.

On returning from Paris, Pavy tested these experiments by killing his animal with one brisk blow on the head and immediately examining the blood, in which he found no sugar. From this he argued that the sugar found by Bernard was due to a post-mortem reaction in the liver, and he maintained that the amount of sugar in the portal blood is not greater than in the rest of the organism, that sugar is decomposed and converted into fats and proteins in the intestines, passing in these forms through the lymphatics and portal vessels, and not passing into the liver and becoming hepatic glycogen unless it is in excess. He showed that no change of glycogen into sugar takes place in the liver during life, that oxygen does not destroy sugar in the blood, and that glycogen itself exists in the blood.

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[1] Hopkins, F. Gowland: Science Progress, London, 1912, pp. 13-47.

[2] Taylor, Frederick: Guy's Hosp. Rep., 1912, 3 s., ii, 1.

This of course represents the net result of Pavy's final view on diabetes, for at the start he was diametrically opposed to the Bernard hypothesis at every point. Hopkins shows that, in his life-long dispute over the glycogenic theory, Pavy was gradually forced, not so much by the results of others, which he seldom read, as by his own experiments, to give up his original position bit by bit, until he had unconsciously made his own views conform to the final doctrine entertained by Bernard, that the liver is the main warehouse of glycogen. Indeed, Hopkins shows that in the last experiment which Pavy performed, with Godden[3] (1911), it was found that no less than 2 gm. of dextrose per kilogram of body-weight could be injected into the venous circulation in the course of fifty-five minutes without any noticeable trace of glycosuria, which would indicate that at least seven times the normal consumption of carbohydrates (*a fortiori* of hepatic sugar) might enter the circulation without appearing in the urine. "How far Pavy would have adjusted his teaching to meet this result," says Hopkins,[4] "we cannot tell; as all his writings show how great was the importance he attached to the argument which his very last experiments were to undermine, the circumstances are not without a degree of pathos." Yet all recent experiments on phlorizin diabetes, pancreatic diabetes and diabetes associated with insufficiency of the posterior lobe of the pituitary body go to show the correctness of Pavy's contention that the liver is not the only source of sugar.

What is most remarkable is the extraordinary pluck of the man in sticking to his guns in the face of almost evident defeat. He had perhaps the largest practice in London in diabetic cases, in the treatment of which he was particularly successful; yet, says Taylor,[5] "almost every afternoon about four or half past four o'clock" Pavy's well-known carriage "of snuff brown, picked out with red" and his fine pair of horses, which he always bought himself at Tattersall's, might be seen outside of the laboratories on the Victoria Embankment where metabolism experiments were conducted under his direction. "It may chill the heart of those who, at the beginning of their career, think of working at such problems," says Hopkins,[6] "to view what seems the small harvest of Pavy's fifty years of labor, but Pavy had no sense of failure." Though his scientific life may have been, in the poet's words, a "long war closing in defeat," yet it was, in the best sense, "defeat serenely borne."

Personally, Pavy was a strongly individualized character. According to Taylor, he liked to have the best kind of things, particularly in diet, in which he was naturally methodical, but he declined to be a follower of fashion. Although he lived to be 82, he still wore the wide-lapelled frock coat, the open double-breasted waistcoat and a cravat tied in the large bow which had been the vogue fifty years before. That he was nervous during his lectures, as Taylor states, is denied by Lucas,[7] who informs us that, on the contrary, he rather enjoyed the boisterous applause given by the students to such quaint mannerisms as referring to an animal's mouth as its "oral orifice," or stating that "our assistant will now proceed to agitate the liquid."

"What sin," said the satirical Sir William Gull, "has Pavy committed, or his fathers before him, that he should be condemned to spend his whole life seeking for the cure of an incurable disease?" This epigram loses much of its point when we reflect that Pavy based his views largely on the success of his treatment of diabetes at the bedside. His "Treatise on Food and Dietetics" (1874), which reached a second edition in the following year, is a well-known landmark of his reputation in this field; and his measurements of the food metabolism and urinary excretion in the case of the American athlete, E. F. Weston, who covered 500 and 1,000 miles in as many consecutive hours (1876), are still remembered. The true status of carbohydrate metabolism is still very much in the air, and we may agree with Dr. F. Gowland Hopkins that these problems "call continually for courage and patience—the courage and patience which characterized the subject of this memoir, F. W. Pavy."

Current Comment

MAN AND MONKEY

The question of the simian ancestry of man has long been the subject of jest. From the zoologic point of view it has been a matter of more serious concern as far as the position of man in any scheme of classification is involved. With the advent of certain of the modern methods of study applied to blood and the problems of immunity, data of a new sort have been furnished to bear on the real relationship of man to some of his animal competitors. The precipitin reaction has made it possible to bring to light features of this sort and to substantiate family resemblances in various species. Transfusion experiments and the untoward results which attend them when they are conducted between unrelated animals are contributions in the same direction. By the methods here indicated it has already been shown that precipitins which are specifically developed for human serum are also applicable to the group of anthropoid apes which includes the chimpanzee, orang-outang and gorilla. They fail to react with the blood of the familiar cynomorphic monkeys. Similar are the findings in the way of relationship after blood transfusions, the two groups of the monkey tribe exhibiting different behavior in respect to the induction of hemolysis by the presence of human serum. The latter does not lake the corpuscles of the anthropoid apes, which endure the introduction of human blood into their circulation without notable distress. To this evidence of blood relationship have now been added fresh facts derived from the domain of metabolism. It is now familiarly recognized that whereas the end-product of the metabolism of purins in man is uric acid, which is excreted in the urine, in most of the higher animals, such as the dog, cat, rabbit, etc., allantoin represents the final stage in the degradation of the purin nucleus. Wiechowski of Prague has now demonstrated that the chimpanzee, an anthropoid ape, resembles man in respect to the presence of uric acid and the absence of allantoin in the urine.[1] In the common macacus monkey[2] and in the baboon the reverse appears to be the case, the individuals of this class falling in line with other familiar laboratory animals. The long-known contrast between man and the animals in respect to this feature of metabolism is thus made less striking by the discovery of these intermediate species exhibiting human characters in more than one way. The gap has been bridged by the studies on the anthropoid apes which have now furnished to science the reputable evidence for that relationship which the behavior of apes in vaudeville and elsewhere has strongly suggested.

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[3] Pavy, F. W., and Godden, W.: Jour. Physiol., 1911, xliii, 199.

[4] Hopkins, F. Gowland: Science Progress, 1912, p. 20.

[5] Taylor, Frederick: Guy's Hosp. Rep., 1912, 3 s., li, 16.

[6] Hopkins, F. Gowland: Science Progress, 1912, p. 46.

[7] Lucas, R. Clement: Guy's Hosp. Gaz., 1913, xxvii, 55.

WHY SOME PEOPLE DISLIKE THE AMERICAN MEDICAL ASSOCIATION

A member of the advertising department of The Journal was talking recently with a man we may call Mr. X, who was the representative of an association which obtains and furnishes advertisements for religious papers. Mr. X volunteered the information that he was going to seek some other line of work and, when asked why, replied that the American Medical Association had, by its campaign against fraudulent "patent medicines" and quackery, greatly curtailed the advertising field of the religious press. The sheet-anchor of advertising in religious papers has always been the "patent-medicine" business. "The religious paper," said Mr. X in effect, "gets its subscribers largely through the efforts of the local pastors in smaller towns. Now, since your organization [the American Medical Assocation] has been showing up the fraudulent 'patent medicines,' the local doctor, who is usually a man of some influence in his community, protests to the pastor against this class of advertising in their church paper. The pastor writes to the publisher saying that it is impossible for him to recommend the paper unless such and such advertisements are dropped. And there you are!" Under the present economic system, it is impossible to fight organized evil without at the same time doing some financial damage to those who have, however indirectly, profited by the existence of that evil. Yet we feel no twinges of conscience in having been instrumental in causing a worthy man to give up what, until comparatively recently, has been a rather profitable occupation.

"THE MILLS OF THE GODS"

Harry M. Coudrey was found guilty in the federal courts, April 4, of using the mails to defraud in the promotion of what were known as the twin insurance companies—the Continental Assurance Company of America and the International Fire Assurance Company of America. Both concerns went into the hands of a receiver. Many of The Journal's readers may wonder what particular interest attaches to these facts; others will remember Harry M. Coudrey as the president of the Labordine Pharmacal Company — in fact Coudrey was, to all intents and purposes, the Labordine Pharmacal Company. Labordine was one of those fraudulent proprietary medicines advertised to physicians as a "vegetable antipyretic" under a formula that was both false and meaningless. It was claimed that "Labordine does not depress the heart," and physicians were urged to use it so as to "avoid acetanilid poisoning" which might follow the use of other remedies. Yet when the Council on Pharmacy and Chemistry had the stuff examined it was found to be essentially an acetanilid preparation, containing nearly 40 per cent. of this drug. Imposing advertisements in medical journals gave the impression that the Labordine Pharmacal Company of St. Louis was a large pharmaceutical concern. As a matter of fact, the "company's" headquarters consisted of one small room on the third floor of an old dilapidated building. The room contained an old roll-top desk, a kitchen table, a bare and dirty floor and one young person in charge who admitted that the stuff was made for Coudrey by the Mallinckrodt Chemical Works. Coudrey, at various stages of his career, has been an insurance agent, a promoter and a member of Congress from Missouri. While holding office at Washington, the papers reported that he had used congressional stationery on which to write letters pushing one of his financial schemes. To the credit of the voters of the twelfth congressional district, it should be said that Coudrey was defeated for reelection in 1910. Previous to his defeat, Coudrey got into the limelight by urging that the government should own and publish the Pharmacopeia. As The Journal said more than six years ago, in its article[1] on the Labordine Company, one of the humiliating phases of the proprietary medicine business is that, in many instances, these preparations are foisted on our profession by men who know nothing of medicine, pharmacy or chemistry, yet presume not only to concoct our medicines for us, but also to instruct us how to use them. Labordine is dead and its exploiter may have to spend four and one-half years in the federal penitentiary. But we believe it is no exaggeration to say that but for the publicity given to this fraud by the Council on Pharmacy and Chemistry of the American Medical Association, Labordine would still be found advertised in medical journals and would still be prescribed by many uncritical or unthinking physicians.

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[1] Wiechowski, W.: Ein Beitrag zur Kenntnis des Purinstoffwechsels der Affen, Prag. med. Wchnschr., 1912, xxxvii, No. 22.

[2] Hunter, A., and Givens, M. H.: The Nitrogen Excretion of the Monkey, with Special Reference to the Metabolism of Purins, Jour. Biol. Chem., 1912, xi, 39.

[1] Labordine, Pharmacology Department, The Journal A. M. A., March 30, 1907, p. 1121.

MILITANT SUFFRAGETTES—A SUGGESTION

The difficulties encountered by British authorities in the management of militant suffragettes suggest a solution to the problem by declaring insane the rank offenders in the destruction of property and other outrages. If we define insanity as a condition in which the subject is so mentally out of harmony with the general environment as to be unable to control conduct and to become a public danger, and if we attribute it to some nervous or mental disease affecting the judgment, some of these suffragettes would seem to fall under that head. For a woman of cultivation and social standing the evidence would be much stronger than in the case of an ignorant working man. Confinement in a criminal asylum on such a charge would be far better than in a common jail with ordinary criminals. Asylum authorities are accustomed to treat the severest forms of sitophobia, and could manage a hunger strike far better than jail officers. The condition is apparently getting serious enough to make the suggestion of such a remedy a timely one, and we believe that it could be adopted with the evidence afforded without an undue strain even on the British laws. Woman suffrage may be a worthy cause; if so it will ultimately prevail, but the means now used in Great Britain are not helping it much.

THE ACTION OF ULTRAVIOLET RAYS ON MILK

We have become familiar in the last few years with the use of ultraviolet rays for the sterilization of water, in which their application has been more or less successful under special conditions. Ayers and Johnson[1] have recently attempted to determine the possibility and practicability of sterilizing milk by ultraviolet rays. Their results are not especially encouraging for this method. Although a marked germicidal action was observed, complete sterilization was not effected. No assurance of the complete destruction of pathogenic organisms could be obtained by this method; moreover, the ultraviolet rays produced an abnormal, disagreeable flavor in the milk treated, which under practical conditions would render the milk unsalable.

A PHYSICIANS' TELEPHONE EXCHANGE

In some respects Europe is a little ahead of us. We have referred to the agitation on the Continent for an arrangement by which a physician can have a week-end holiday, during which any special calls from his patients will be taken care of by one of his confrères, the arrangement rotating for the benefit of all. The latest suggestion—a physicians' central in the telephone office—comes from Vienna and Berlin, and, we understand, has been tried in this country. The arrangement is similar to the information department of the ordinary exchange. When a physician leaves his office without an attendant remaining to answer calls, he notifies the physicians' central and states where he may be reached at various times. Then any patient failing to receive an answer on calling the doctor's office calls for the physicians' central and ascertains where the doctor can be reached most quickly. In the case of a disaster or accident one can call the doctors' central and ask for the help of the first available two, five or ten physicians, as the case may be. In our cities and in the country, physicians usually have attendants at their offices, or members of their families at home, making such an arrangement unnecessary; but there may be places in which the idea could be put to use with profit.

Medical News

GEORGIA

Personal.—Dr. J. H. Redding, Waycross, is reported critically ill at his home.——Dr. Willis F. Westmoreland, Atlanta, is recovering from an operation for appendicitis.

Hospital for Crippled Children.—Physicians of Atlanta are advocating the establishment of a hospital in that city to be used solely for the treatment of crippled children.

Painting Presented to College.—At the last meeting of the faculty of the Medical Department of the University of Georgia, Dr. James L. Hull, on behalf of Mrs. J. B. Morgan, presented the college with an oil painting of the late Dr. James B. Morgan, for more than fifteen years a member of the faculty of the college.

New Officers.—Seventh District Medical Society at Marietta: president, Dr. Fred V. Turk, Stilesboro; vice-president, Dr. H. L. Erwin, Dalton. Cartersville was selected as the next place of meeting.——Atlanta Antituberculosis Association: directors, Drs. W. E. Quillian, J. E. Sommerfield, E. G. Ballenger and R. R. Daly; pathologist, Dr. Claude Smith, and orthopedist, Dr. Theodore Toepel.

Home for Medical Society.—At a special meeting of the Georgia Medical Society, Savannah, March 28, more than $4,000 was subscribed toward the purchase of the permanent home for the society. About $10,000 is needed for this purpose and the society is said to have an option on a three-story brick house on Drayton Street. A committee in charge of the enterprise consists of Dr. A. J. Waring, Dr. J. Charlton and J. Lawton Hiers.

State Society Meeting.—The annual meeting of the Medical Association of Georgia will be held at Savannah, April 16-18. At this session it is said that the project of making all members of the State Association members of the American Medical Association without extra cost will come before the organization for action.——The annual meeting of the Association of State and Municipal Health Officers will be held in Savannah, the day preceding the meeting of the State Association.

ILLINOIS

Personal.—Dr. C. C. Atherton, formerly a member of the staff of the Elgin State Hospital, has reported for duty at the Lincoln State School and Colony.——Dr. and Mrs. J. W. Dreyer, Aurora, sailed for the Mediterranean from Boston, April 5.

Favor Epileptic Colony.—A delegation from clubs and civic bodies in Chicago and other cities of Illinois went to Springfield this week to urge the passage of the O'Connor bill, establishing a state colony for epileptics to house about 1,500.

Hospital Notes.—An addition has been built to St. Francis Hospital, Macomb, which will double the capacity of the institution so that now one hundred patients can be accommodated.——Tentative plans for the establishment of the Swedish-American Hospital, Rockford, have been passed on by the board of directors. An additional sum of $20,000 is required before the building desired can be erected.——Dr. and Mrs. C. J. Higinbotham, Streator, have established a private sanatorium at 702 North Shabbona Street.——By a vote of 2,422 to 1,868, the citizens of Belleville have decided to convert the city hospital into a tuberculosis sanatorium which is to be maintained by a mill tax.

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[1] Ayers and Johnson: Jour. Washington Acad. Sc., March 19, 1913.

Chicago

Kosher Hospital Dedication.—The dedicatory exercises of the new Maimonides Hospital at California and Ogden Avenues commenced April 5. to continue until April 13. The hospital has been erected by orthodox Jews and will be conducted and maintained by the Federated Orthodox Jewish Charities of Chicago. The building, ground and equipment represent an investment of more than $200,000.

Personal.—Dr. George Leininger has been appointed superintendent of the Dunning State Hospital.——Dr. and Mrs. William L. Noble and family and Dr. and Mrs. Stephen Wise and family have sailed for Europe.——Dr. John D. McGregor has been appointed city physician. vice Dr. George J. Spencer, resigned.——Dr. J. P. Buck was thrown through a plate-glass window while cranking his automobile, March 31. and suffered severe bruises and cuts which necessitated hospital care.

Tuberculosis Exhibit Installed.—A traveling tuberculosis exhibit with models and tables was installed, April 3, by the Chicago Tuberculosis Institute at 19 W. Jackson Boulevard. Dr. Theodore B. Sachs, president of the institute, made a plea for the advanced consumptives at the meeting, April 4. On April 5. Dr. Robert H. Babcock spoke on "The Methods of Dealing with Tuberculosis." and in the evening a meeting for nurses was held at which Dr. Edward C. Rosenow and Miss Adelaide L. Walsh, president of the Illinois Association of Graduate Nurses, delivered addresses.

IOWA

Clinic to be Established.—Steps toward the establishment of a hospital and medical dispensary for the poor of Des Moines were taken by the city council at a conference between a committee of that body and Polk County Board of Supervisors and the Polk County Medical Society.

Drake Building for Research.—Physicians of Des Moines are considering the advisability of organizing an academy of physicians and using the present Drake Medical and Dispensary building for scientific research work. The proposition will be submitted to physicians of the state at the state society meeting in May.

Hospital News.—A site on which a general sanatorium is to be erected has been purchased in West Cedar Rapids for $20.000. Dr. S. W. Staads, Sioux City, is president of the company and Dr. F. C. Seemann, Sioux City, secretary.——The Keota Hospital opened to receive patients March 27.——The contract for the building of the new Memorial Hospital, Cedar Falls, was awarded March 28.

KANSAS

Dispensary Clinic at Bartlesville.—Washington County Medical Society has established a free clinic at Bartlesville which is open three days in the week.

New Hospital.—At the annual Methodist Episcopal Conference of Southwest Kansas, held in Wichita, recently, it was decided to purchase a five-acre tract of land in Wichita, on which the Wesleyan Hospital is to be erected at a cost of $200.000.

Personal.—Dr. H. L. Steele, Pittsburg, who has been seriously ill with cholelithiasis, was operated on in Mount Carmel Hospital, March 27, with satisfactory results.——Dr. J. E. Foltz, physician at the State Reformatory, Hutchinson, has resigned.——Dr. Jessie Thomas Orr, Olathe, has been appointed a member of the Kansas State Medical Board.

LOUISIANA

New Officers.—Saint James Parish Medical Society at Convent: president, Dr. J. L. Des Lattes, Paulina; secretary-treasurer, Dr. L. A. Gaudin, Convent.——Calcasieu Parish Medical Society at Lake Charles: president, Dr. S. G. Kreeger; secretary-treasurer, Dr. J. D. Tuten, both of Lake Charles.

Personal.—Dr. T. E. Wright, for several years a member of the State Board of Health, who has been doing very effective work for the hookworm commission in northern Louisiana, has resigned and will enter general practice in Monroe.——Dr. Benjamin A. Ledbetter, New Orleans, president of the State Medical Society, who was charged with writing unlawful letters and was on trial in the United States district court, was vindicated when the case came to trial, March 28, the jury rendering a verdict of acquittal without leaving their seats.

MARYLAND

Personal.—Dr. Eric Pearce Gould, London, England, who is making a round of inspection of American hospitals, visited Baltimore last week.——Dr. William Gary Morgan gave a dinner in honor of Dr. John C. Hemmeter, March 29, at which Dr. Hemmeter made an address on "The Mental Characteristics of Great Medical Thinkers."

Psychiatric Clinic to Open.—The opening exercises of the Henry Phipps Psychiatric Clinic, Johns Hopkins Hospital, Baltimore, will take place April 16-17-18. On the first afternoon, the session will be held at the clinic building, Dr. William H. Welch delivering the introductory address. Dr. Stewart Paton, Princeton, N. J., will speak on "The Clinic and the Community;" Henry H. Harlan, president of the board of trustees of Johns Hopkins Hospital will give "A Word of Appreciation," and Sir William Osler will deliver an address on "Specialism in General Hospitals," after which the building will be inspected and tea will be served. The morning session of the second day will be held in the recreation-room of the clinic at which Prof. W. F. McDougall will speak on "The Sources and Direction of Psycho-Physical Energy"; Prof. E. Bleuler on "Autistic Thinking"; Prof. A. Hoch on "Personality and Psychosis," and Dr. L. F. Wells on "The Personal Factor in Association Reactions." In the afternoon a visit will be paid to the Sheppard and Enoch Pratt Hospital where tea will be served. In the evening there will be a meeting at Osler Hall, Medical and Chirurgical Faculty Building, at which Dr. F. W. Mott will speak on "A Study of the Neuropathic Inheritance in Relation to Insanity;" Prof. O. Rossi on "Pellagra," and Prof. H. Cushing on "Psychic Derangement Associated with Ductless Gland Disorders." The exercises of the third day begin with a session at 10 o'clock in the recreation-room of the clinic at which papers will be read by Dr. Stewart Paton, Princeton, N. J., on "Primitive Mechanisms of Individual Adjustment;" by Prof. Heilbronner on "Demenz Probleme," by Dr. E. Jones on "Interrelation of the Biogenetic Psychoses," and by Dr. G. H. Kirby, New York City, on "Prognostic Significance of the Biogenetic Psychoses." At 1 o'clock, luncheon will be served at the Johns Hopkins Hospital and the session will be resumed at 2:30 in the recreation-room of the clinic, where an address will be given by Dr. Achucarro; Dr. C. B. Dunlap, New York City, will discuss "The Anatomical Borderline Between the So-Called Syphilitic and Metasyphilitic Disorders," Prof. A. M. Barrett will consider the "Disorders Connected with Anemia," and Prof. A. Meyer will deliver the closing address.

MASSACHUSETTS

Cutter Lectures.—The Cutter lectures at Harvard Medical School on preventive medicine and hygiene were delivered by Prof. George C. Whipple of Harvard University, March 31, and April 2 to 5. The subject was "The Use of Vital Statistics with Truth, with Imagination and with Power."

Money Needed for Tuberculosis Hospital.—The Boston Association for the Relief and Control of Tuberculosis is urging the passage of an ordinance appropriating $125,000 for a hospital pavilion and two cottage wards at the Boston Consumptives Hospital. At present, all four of the state hospitals are full and there is a waiting list of at least 200 who need sanatorium care.

MICHIGAN

New Officers.—Saginaw County Medical Society at Saginaw, March 16: president, Dr. Robert MacGregor; secretary-treasurer, Dr. A. R. McKinney, both of Saginaw.

Asks Increased Appropriation for Hospital.—Alderman Barnett of Detroit introduced a resolution in the common council March 29, directing the poor commission to submit a supplementary estimate increasing the appropriation of $600,000 for municipal hospital units to $2.000,000.

New Hospitals.—A society has been organized in Marshall to plan for the building of the city hospital in accordance with the will of the late Charles Pratt who left $65,000 for that purpose.——The first sod was broken, March 10, for the $25.000 tuberculosis hospital which is to be built for the Daughters of the Empire on the shore of Lake Erie, near Union.

MISSOURI

New Officers.—Grand River Eleventh District Medical Association at Chillicothe: president, Dr. B. F. Reynolds, Brookfield; secretary, Dr. J. C. Shelton, Chillicothe. Chillicothe was selected as the place for the next annual meeting.

New Staff for State Hospitals.—The new staff of State Hospital No. 3, Nevada, took charge of affairs, March 17. Dr. W. P. Bradley, Windsor, is superintendent and Drs. Charles B. Simcoe, Jefferson City; William R. Summers, Conway, Laclede County, and Dawson, El Dorado Springs, are assistants.——The following medical staff has been named for State Hospital No. 1, Fulton: superintendent, Dr. M. O. Biggs, Bowling Green; assistants, Drs. Herman S. Major, Hardin; E. E. Evans, Columbia, and Z. T. Knight, Monticello. They will assume office in June.

St. Louis

Talks on Cancer.—At the meeting of the St. Louis Society of Pedagogy, April 5, Dr. Leo Loeb, director of the laboratories at the Barnard Free Skin and Cancer Hospital, spoke on "The Results of Animal Experimentation on Cancer," and Dr. Frederick J. Taussig delivered an illustrated lecture on "The Importance of Early Recognition of Cancer."

Free Aid for Consumptives.—The St. Louis Society for the Prevention and Care of Tuberculosis inaugurated a new plan, April 1, which, it is believed, will result in every tuberculosis patient in the city having the services of a skilled physician. For this work, 116 physicians from all parts of the city have volunteered their services and it will be under the supervision of Surgeon Paul M. Carrington, U. S. P. H. S., medical director of the society. At present the society cares for 519 patients and has a staff of thirty-five physicians and five nurses.

Hospital Items.—An isolation hospital has been authorized on Arsenal Street, just west of the City Sanatorium.——A tuberculosis day and night camp has been opened at 9500 South Broadway under the charge of the St. Louis Society for the Relief and Prevention of Tuberculosis. Twenty patients entered on the first day.——Dr. R. B. H. Gradwohl has opened a Pasteur institute to be operated in connection with the New York institution. Temporary headquarters are in the Victoria Building, but a laboratory and hospital in the West End is planned.

MONTANA

New Officers.—Gallatin County Medical Society at Bozeman, March 25: president, Dr. C. S. Smith; secretary-treasurer, Dr. H. H. Judd, both of Bozeman.

Personal.—Dr. J. M. Scanland has resigned as superintendent of the State Insane Hospital, Warm Springs, and has been succeeded by Dr. A. C. Knight.

NEBRASKA

New Officers.—Boyd County Medical Association at Spencer, March 11: president, Dr. Frank E. Keep, Spencer; secretary, Dr. C. L. Hooper, Butte.

Personal.—Dr. C. P. Fall, Beatrice, celebrated the twenty-fifth anniversary of his entrance into practice of medicine, April 1. In the afternoon the Gage County Medical Society held a special session in which out-of-town guests participated, and in the evening Dr. Fall gave a banquet to about forty medical men of Beatrice and vicinity.——Dr. Calvin Starr, Beatrice, celebrated his ninety-first birthday anniversary, April 2.——Dr. and Mrs. William R. C. Neumarker, Columbus, sailed for Europe, March 20.

NEW YORK

New Officers.—Utica Medical Club: president, Dr. Raymond A. Kempf; secretary-treasurer, Dr. F. S. DeLong.

Personal.—Dr. Myron Lipes, Cobleskill, has returned to the Albany Hospital on account of a recurrence of septicemia.——Dr. W. Louis Hartman, Syracuse, who is about to leave for Detroit, was the guest of honor at a dinner given by railway officials of the New York Central Lines, March 25. For twelve years Dr. Hartman had been local surgeon for the roads entering Syracuse.

Hospital Notes.—The Lestershire Hospital is overcrowded and there is urgent need of an increase in its capacity.——It is proposed to purchase Riverview Academy, Poughkeepsie, and remodel it as a general hospital to be known as St. Barnabas Hospital. For this purpose the St. Barnabas Fund, which now amounts to $35,000, will be available.——The plans for the proposed mixed-infection pavilion at the Syracuse City Hospital have been approved. It is to be a pressed brick and sandstone structure and will cost about $20,000.

Work of the New York Milk Committee.—The sixth annual report of the New York Milk Committee has just been made public. The report puts special emphasis on the need of practical eugenics and the instruction of mothers, giving the details of experiments that it has recently made in this line of work and calling special attention to the fact that from one in every ten to one in every six babies dies during the first year of life, and that nearly one in every three of these deaths occurs during the first month of life and is due to congenital causes. Deaths of infants from every other cause decreased during 1912, but those from congenital causes increased. Certain tenement districts were selected and instruction given the mothers who came to the milk stations. The committee gave this special instruction to 1,375 mothers, caring for them for a month after the birth of their babies, and as a result deaths among the children of these mothers were nearly one-third less in proportion than among those born in Manhattan as a whole. Another portion of the report dealt with the Babies' Welfare Association, which, it was stated, now embraced eighty different organizations. The report also related the achievements of the committee in securing better milk for restaurants and lunch counters. The committee has also been instrumental in securing the establishment of a national standard of pure milk.

Health Finance Investigation.—A committee appointed by the governor to inquire into the financial conduct of various state departments has reported to the legislature. This committee considered the request of $2,000,000 for new buildings on Hoffman and Swinburne Islands but did not think it wise to expend the money for this purpose at present. They believed that the State Health Department should be run on $46,000 less than was used last year. In regard to the appropriation of $17,000,000 requested for maintenance of state hospitals and charities, the committee stated that the state had practically no control over the expenditure of this money and urged that the policy of state institutions should be directly under its supervision. The latter statements were the occasion of a special meeting of the State Charities Aid Association which protested that no expenditures were made that were not passed on by the fiscal supervisor of the State Hospital Commission. They expressed the opinion that the conclusions of the investigating committee were hasty and inadequate, as the state institutions were too numerous and the administration too complicated to be passed on in such a cursory investigation. Resolutions were passed for presentation to the governor urging the continuance of appropriations for new buildings and showed that it would be most unfortunate if the progress of the state institutions was hindered even for one year. Two more institutions for the insane were urged as necessary, but the plan of using the Creedmoor rifle range as a site was opposed.

Gift for Social Laboratories.—Mrs. Elizabeth Milbank, Anderson, has given $650,000 for social welfare laboratories to be conducted by the New York Association for Improving the Condition of the Poor. This will be known as the "Milbank Memorial Gift" and makes possible the establishment of the department of social welfare to conduct experimental laboratories for demonstration of the practicability of preventive and constructive measures. The donor expects the enterprise to be conducted under the supervision of the department, to deal with public health and hygiene, the welfare of school children and food-supply. The first of these subdepartments will make a searching and thoroughly scientific inquiry into the subject of ventilation of school and other public buildings and for this purpose a committee of experts will be organized for independent research and experimental work. The subcommittee on school children will enable the school-lunch committee to extend and broaden its admirable work of serving hot lunches approximately at cost to school children; will take up the problem of extending and improving the system of medical inspection of school children and increasing the clinical facilities for treatment of physical defects of school children, especially of the teeth. The subcommittee on food-supply will make investigations concerning the scientific production of various articles of food, its purchase in larger quantities, its scientific storage, its efficient and honest handling and the latest facts as to relative food values with the object of ascertaining how the cost of food to the consumer can be reduced and its nourishing qualities increased.

New York City

Personal.—Dr. and Mrs. Richard Derby sailed for the Mediterranean, April 5.——Dr. Frank H. Clark, Brooklyn, is suffering from septicemia due to an operation wound.

Hospital for Prisoners.—A building adjoining the Tombs has been renovated, fitted up and opened as a hospital for prisoners. Dr. LeRoy Hamilton has been appointed resident physician.

Tribute to Bristow.—At the dinner of the Brooklyn Medical Society, March 27, Justice Isaac Franklin Russell paid eloquent tribute to the late Dr. Algernon T. Bristow, stating that his unerring accuracy of hand, knowledge and wisdom saved many lives, making it only right that this tribute should be paid him.

For Charity.—In response to the expressed wish of Pope Pius X, and with the active cooperation of Cardinal Farley, a twelve-day campaign will be begun on April 5 for the purpose of raising $100,000 or more for the erection of a new building for Columbus Hospital, the principal refuge in sickness for a population of more than 700,000 Italians in this city.

Public Warned Against Soda-Fountain.—Dr. Lederle of the Department of Health states that a preparation of soapbark known as saponin is extensively used in this country in making soft drinks. This substance is a powerful poison and unless wholesome substances can be used for producing the foam, it should be shunned. Dr. Lederle states that the shortage of inspectors makes it impossible for the Department of Health to guarantee the purity of soda water drinks and advises the public to avoid them.

Pellagra Work to Continue.—The Pellagra Commission, whose headquarters are at the Postgraduate Medical School and Hospital, and which went to Spartanburg last summer for the purpose of making investigations into the cause and remedy of pellagra will again go south to carry on its work during the summer months. The work is supported by Col. Robert M. Thompson and John H. McFadden. The personnel of the commission is the same as last year: Capt. Joseph F. Siler, U. S. A.; P. A. Surgeon Philip E. Garrison, U. S. N.; Dr. Ward J. MacNeal, assistant director department of laboratories of the New York Postgraduate Hospital, and Allan H. Jennings and M. V. King, entomologists of the Bureau of Entomology of the Department of Agriculture.

OHIO

Cincinnati

In Memory of Lazear.—On April 11 the Blue Hydra Society of the University of Cincinnati held open house and tree day in memory of Dr. Jesse W. Lazear, who gave his life in the investigation of yellow fever in Cuba. Dr. Paul G. Woolley, dean of the Medical College, who was Lazear's classmate, delivered the address of the afternoon and letters were read from President Wilson, ex-President Taft and others

Personal.—The Safety director has appointed the following as members of the junior staff of the Cincinnati Hospital, on the recommendation of the senior staff: Dr. C. J. Broeman, junior dermatologist; Dr. Edward A. Wagner, junior pediatrist; Dr. C. H. Weintz, junior laryngologist.——Dr. F. J. Boyd has resigned as assistant superintendent of the Antituberculosis Hospital.——Drs. Ray Sattler and Theodore Wenning, who were both taking medical courses in Berlin, have left that city for Belgrade, Servia, for service in the military hospitals

PENNSYLVANIA

Hospitals Combine.—The managers of the Todd Hospital, Carlisle, have agreed to merge with the proposed Carlisle Hospital, provided that one of the buildings of the new group shall be designated "Todd Hospital."

Personal.—Dr. J. S. Donaldson, Bellevue, was operated on for appendicitis in the Suburban General Hospital, Bellevue, March 26.——Dr. A. Trapold, Wilkes-Barre, has been elected superintendent of the Nanticoke City Hospital.——Dr. F. A. Rhoads, chairman of the Morals Efficiency Commission of Pittsburgh, is reported to be seriously ill in Lakeside Hospital, Cleveland, following an abdominal operation.——Dr. J. MacFarland, Philadelphia, has returned from abroad.

Philadelphia

Permit for Surgical Ward.—A permit has been issued for a $200,000 six-story surgical ward at the southwest corner of Thirty-Fourth and Spruce Streets for the University of Pennsylvania.

City Must Care for Idiotic Children.—According to a decision by Judge Staake, handed down in Quarter Sessions Court on April 1, the city of Philadelphia is legally bound to support feeble-minded children who have no parents or relatives.

Rush Lecture.—The fourth Rush lecture was given at the University of Pennsylvania (New Medical Laboratories, Lecture Room B), April 2, by Prof. W. B. Cannon of Harvard University, on "Some Studies on the Bodily Effects of Fear and Rage."

Steinbach Memorial Meeting.—Members of the medical profession and the Philadelphia County Medical Society attended a memorial meeting for the late Dr. Lewis W. Steinbach, which was held at Rodeph Shalom Temple, March 30, under the auspices of forty local and national Jewish organizations.

Special City School for Cripples.—In September, the Horace Binney School at Sixth and Spruce Streets, will be opened to crippled children. Omnibuses will call for them and the schoolrooms will be furnished for their comfort. The decision to open this school was reached by the Board of Education, following an investigation conducted by Miss Blanche Jones of the Public Education Association.

Tuberculosis Workers' Conference.—The third annual Pennsylvania Conference of Tuberculosis Workers was held at the Bellevue-Stratford Hotel, April 4. There were sessions morning and afternoon, followed by a dinner at the Sketch Club on South Camac Street. The futility of large institutions for the care of tuberculosis patients, the necessity of adopting the unit plan or segregation of different races and classes of patients, and the general localization of the fight against the disease by the establishment of county sanatoria, were the principal suggestions advanced by the speakers. At the afternoon session the following officers were elected: president, Asa W. Wing; secretary, Dr. Ward Brinton.

GENERAL

Prevention of Infant Mortality.—An English-speaking conference on the prevention of infant mortality will be held in Caxton Hall, Westminster, London, August 4-5, under the auspices of the National Association for the Prevention of Infant Mortality and the Welfare of Infancy. The conference will convene immediately before the opening of the International Medical Congress. The subjects treated will be the responsibility of central and local authorities in infant and child hygiene; the administrative control of the milk-supply; the necessity for special education in infant hygiene; medical problems in infant nutrition and antenatal hygiene. Dr. Henry L. Coit, Newark, N. J., is chairman and Dr Philip Van Ingen, 125 East Seventy-First Street, New York City, secretary of the American committee.

Bequests and Donations.—The following bequests and donations have recently been announced:

Federated Jewish Charities of New York, $10,000, by the will of Jerome Hilton Waterman.

St. Michael's Hospital, Newark, N. J., the entire estate of Charles Bloom.

Free Hospital for Incurables, New York City, $8,000; Hospital for the Ruptured and Crippled, $2,000, by the will of G. H. Morgan.

Adirondack Cottage Sanatorium, Association for Improving the Condition of the Poor, and the Labrador Mission, each $5,000, and Presbyterian Hospital, New York City, $7,500 by the will of Henrietta Penfold.

Harvard College, a contingent bequest of $50,000 to be added to the Ellen Osborn Proctor fund for the study of chronic diseases, by the will of Abel H. Proctor.

Mt. Sinai Hospital, New York City, $10,000 for the endowment of two beds in memory of the testator's mother and grandmother, by the will of Theodore B Dale.

Perry (Ia.) Hospital, $17,630.40 by the efforts of the Kings Daughters

Mt. Sinai and General Hospitals, New York City, each $2,500 by the will of Simon E. Bernheim.

Eugenics Record Office.—The Eugenics Record Office which was established at Cold Spring Harbor, Long Island, N. Y., in October, 1910, by Mrs. E. H. Harriman and has since been active in this field, has recently entered on a new stage of development. A board of scientific direction has been organized, consisting of Prof. Alexander Graham Bell, chairman; Dr. William H. Welch, Baltimore; Prof. Irving Fisher, New Haven, Conn.; Dr. Lewellys F. Barker, Baltimore; Dr. E. E. Southard, Boston, and C. P. Davenport, secretary of the board and resident director. The board met at Cold Spring Harbor, March 21, for organization. The aim of the office was defined to be first, to promote researches in eugenics that shall be of utility to the human race. This includes the study of America's most effective blood lines; the methods of securing the preponderance and relative increase of the best strains; the study of the origin of, and the best methods of restricting the strains that produce the defective and delinquent classes of the community; the study of the method of inheritance of particular traits; the study of the consequence of marriages of close kin; the study of miscegenation in the United States and the study in both this country and abroad of the family histories of permanent immigrants. The second aim is the publication of the results of these researches; the third, the provision of a fireproof building for the preservation of eugenic records, including genealogic works and town histories and the fourth aim, is the provision of an administrative office and a staff to carry out the work. The new home of the office is being rapidly pushed to completion. The board of scientific directors will meet each spring at Cold Spring Harbor to consider the projects most worthy of support during the next fiscal year and will meet again in November to receive a report of the work of the office for the preceding fiscal year. The resident director is placed in general charge of this plan and operations, and is authorized in the name of the board to ask for and receive funds for carrying on the work of the office. The board also voted in favor of the organization of a eugenics research association, for which a meeting will be called early in June.

LONDON LETTER

(From Our Regular Correspondent)

London, March 29, 1913.

The Profession and Trade-Unionism

As stated in a previous letter to The Journal, during the struggle against the insurance act the proposal was brought forward to convert the British Medical Association into a trade-union, that it might enjoy the privileges and immunities conferred by law on trade-unions. Examples of these are the power to make a levy, and immunity from actions for libel or damages done to employers by combinations interfering with their business. Naturally the proposal, so contrary to the traditions of the profession, received a good deal of opposition. Many of the methods of trade-unions were considered discreditable. The point was raised at one of the representative meetings of the British Medical Association and was referred to its attorney, who declared that he did not think it was possible for the association as at present constituted to form itself into a trade-union. Since the defeat of the association's policy, the question of forming a trade-union has become a burning one, and is giving rise to an extensive correspondence in the *British Medical Journal*. It has been cogently pointed out that the profession is very individualistic, and therefore quite unsuited for trade-unionism. Thus free competition is dear to the majority of physicians, and "free choice of doctor" was one of the battle-cries of the recent struggle. The relation of the profession to the public, looked at from the commercial point of view, is rather that of shopkeepers than that of artisans working for a wage. The difficulty of forming any sort of union in the former class is obvious.

Nevertheless, the militant section of the profession and of the British Medical Association which adopted an uncompromising attitude to the insurance act to the last, has now formed an association called the National Medical Guild, which is practically a trade-union. The objects of the guild are: to regulate the relations between medical practitioners and their employers and between medical practitioners and physicians; to regulate the rates of payment; to regulate and control the conditions of contract practice and make provision for the creation of an organization or organizations to supply medical service; to establish a fund or funds; to promote legislation; to employ the funds of the guild for the political objects defined according to the trade-union act of 1912; to take active part in political propaganda in the interests of the medical profession; to further the interests of the profession in all legitimate ways and to employ the funds of the guild for such purposes; to give legal assistance to members and officers; to provide for the insurance of members, either directly or by arrangement with insurance companies, against death, illness, third-party liability and for damage caused to and by motor cars or other vehicles, and to publish books, papers and literature in furtherance of the ends of the guild. The annual subscription for members is $5, and in the event of a levy being decided on, each member shall contribute such sum as shall be determined; but in no case is the amount to exceed $25 in any one quarter of the year unless a special ballot be obtained for the purpose. Any member who is unwilling to contribute toward the "political objects" of the guild, if he so desires, shall be exempted from the payment of such proportion of the levies and contributions as are employed by the guild for the furtherance of such objects. By political objects are meant the payment of the expenses incurred by a candidate for Parliament or his support in other ways before or after election.

The Physical Condition of Schoolchildren

Sir George Newman, medical officer of the Board of Education, has issued an important report on the physical condition of the schoolchildren throughout the country. There is an appalling amount of dental caries, even in country areas, where among pupils aged 5 years, only 7 or 8 per cent. have sound teeth, and among those aged 12 only 3 or 4 per cent. The average number of decayed teeth at the age of 5 is 6 in country boys and 5.8 in girls; in town boys and girls the figures are 7 and 6.5, respectively. In children suffering from adenoids sufficient to require medical treatment, there is an excessive amount of caries, which suggests a connection between the two conditions. Sir George Newman thinks that the most important factor in the production of caries in children is unsuitable diet from infancy upward. The immediate cause is the accumulation about the teeth of fermentable carbohydrate material, due to the form in which the carbohydrate food is taken, or to the absence of detergent forms of fibrous food taken at the same time or subsequently. Improvement can come only through education and change in the dietetic habits. The next line of defense is the maintenance of the teeth and mouth in proper condition, which can be secured in large degree by the use of the tooth-brush. The third line of defense is the treatment of dental caries at the onset. In several schools tooth-brush drill and tooth-brush clubs have been inaugurated. In most localities dental clinics have been established.

Increasing provision has been made for the education of defective children, for whom there are now 335 schools. One result of medical inspection has been to bring to light a number of children temporarily or permanently defective, for whom education in the ordinary school is unprofitable. Formerly the detection of such children was left to lay officers and teachers. Special schools are required for dull and backward children and for children who are definitely feeble-minded. Graded classes and residential schools are required for cases needing continuous care. Associated with these schools Sir George Newman recommends that there should be colonies for industrial training. In all cases there should be systematic after-care and supervision.

The Profession from the Socialist Point of View

Dr. Alfred Salter, a socialist physician, has severely criticized the present medical arrangements at a congress of the labor party. He said that our health service had grown up without any prearranged plan, and chaos had come about in somewhat the same way as occurred in the growth of large towns. Working-class physicians, under the new conditions brought about by the insurance act, were overworked, while practitioners in other districts had not enough work to keep them going. The great bulk of the medical men in industrial districts were not looking forward to any holidays this year, because they knew that if they went away there would be no one to take their places.

PARIS LETTER

(From Our Regular Correspondent)

Paris, March 21, 1913.

Responsibility of the Physician

Much interest has been excited in the profession by a recent decision in the Paris Court of Appeals which contains a new interpretation of the doctrine of medical responsibility which, if its validity is admitted, will have serious consequences for physicians. Up to the present no action for damages has been allowed unless the plaintiff proves that the physician has committed a fault or negligence in his application of treatment.

In the suit in question, the plaintiff alleged against Dr. Delherm certain negligences in the application of roentgenotherapy. The court while recognizing that the plaintiff had not proved that Dr. Delherm had committed a fault or negligence in the application of the treatment, condemned the physician to pay damages on the ground that the physician is responsible for the consequences of the application of a treatment which presents so many dangers in itself, unless the health of the patient demands the employment of this treatment. In this case the Roentgen ray had been used to remove a hairy growth on the plaintiff's chin. After the application of the ray the patient had a dermatitis of the second degree.

The court believed that while the physician should not hesitate to use this treatment when demanded by the health of the patient, nothing justified the assumption of such a risk for so trifling a result as the removal of a mere physical imperfection. According to the judge, Dr. Delherm ought to have warned the patient of the dangers she might run and have refused to apply the treatment. The court, therefore, condemned Dr. Delherm to pay the plaintiff $1,000 (5,000 francs) as damages. The Syndicat médical de Paris protested energetically against the admission of such a principle. If the physician should be obliged to warn the patient of the possible danger of each medical procedure which he employs, the patient would certainly refuse to submit to the necessary treatment. The most matter-of-course medical procedure, such as a hypodermic injection, has dangers which, however, present themselves only in a very small proportion of cases. Patients thus unnecessarily frightened by the discussion of all possible hazards would many times refuse the necessary treatment, and human lives would be sacrificed.

International Congress of Physical Education

March 17, under the presidency of M. Raymond Poincaré, President of the Republic, the inaugural session of the International Congress of Physical Education was held. The president of the Congress is Dr. Gilbert, professor of clinical medicine at the Faculté de médecine de Paris, and the secretary general is Dr. Weiss, professor of medical physics at the same school. The work of the congress is divided among several sections, two of which are of especial medical interest, namely, the section on physiology of physical exercise and the section on kinesitherapy. The latter section is concerned especially with medical gymnastics considered as a prelude to physical education of mentally backward children, and with various kinds of respiratory gymnastics, etc. There is an exposition connected with the congress including a scientific section where are found tracings, photographs, statistical tables and mensuration apparatus for the establishment of a physiologic basis of sports; an artistic section where contemporary works of art inspired by sports or open-air life are collected, and a historical section showing the history of various sports.

The Value of Artificial Pneumothorax in the Treatment of Pulmonary Tuberculosis

Apropos of the recent paper of Dr. Louis Renon on the same subject (The Journal, Feb. 15, 1913, p. 532), Dr. Achard, professor of general pathology and therapeutics at the Faculté de médecine de Paris, read at one of the last sessions of the Académie de médecine a paper emphasizing the fact that the treatment of pulmonary tuberculosis by Forlanini's method, not to speak of its limited indications, can be employed only in hospitals and sanatoriums where the patient can be given roentgenoscopy and roentgenography at each new insufflation. Moreover, the number of patients cured by this method is very small in comparison with the number of patients treated, and relapses have been observed. Finally, alterations from compression of the healthy parts of the pulmonary parenchyma are to be feared. Although the ultimate results of the method are still uncertain, the immediate results are of considerable practical value in certain cases, for they permit one to gain time.

Rewards for Professional Courage

At the last meeting of the commission of the Carnegie Foundation, a silver medal and a sum of $400 (2,000 francs) were awarded to Dr. Carpentier, an intern of the hospital of Rouen, who, when scarcely recovered from scarlatina, was stricken, April 1, 1912, with a diphtheric angina in a most serious form, contracted in the repeated employment of intubation on a child with diphtheria. After a long and painful convalescence Dr. Carpentier remained afflicted with permanent claudication and atrophy of the right leg and hand.

A silver medal was awarded to Dr. Gallini, physician at Susa (Tunis), who died a victim of his devotion to duty. He had contracted typhus at the bedside of indigent patients whom he attended with unwearied devotion in the hospital and the prison. An annual and renewable grant of $200 (1,000 francs) was made to Mme. Gallini and an annual award of $40 (200 francs) to each of her three children up to the age of 16.

Antityphoid Vaccination in the United States Army

On March 11 Professor Chantemesse reported to the Académie de médecine the excellent results obtained in the American Army by an antityphoid vaccine consisting of a pure monovalent culture of typhoid bacilli sterilized by heating, that is to say, the vaccine of which Chantemesse claims to have established the efficacy experimentally for the first time a quarter of a century ago.

This paper elicited a very warm discussion in which *agrégé* Professor Netter and Professor Vincent took part. Netter remarked that the vaccine employed in the American Army is sterilized only to 53 C. (127.4 F.) It is therefore distinctly different from that which was formerly recommended by Chantemesse, which was sterilized to 120 C. (248 F.) In the latter temperature this vaccine has become completely inert and incapable of conferring any immunity. Netter insisted, moreover, on the importance of the researches of Pfeiffer and Kolle and gave these authors and Sir Almroth E. Wright the honor of having applied antityphoid vaccination to man. In the experiments of Chantemesse, one mouse out of four died, which was scarcely an encouragement for using this method on human patients. Vincent also believes that heating to from 100 to 120 C. (212 to 248 F.) destroys all the immunizing qualities of cultures of typhoid bacilli. The American vaccine is only a variant of that of Pfeiffer and Kolle. The good results of this vaccine are incontestable, but in order to appreciate them at their true value, it is necessary to take account of the epidemic index of the country in which one is operating. In America typhoid fever is comparatively limited in its ravages, for in 1907-1909 the typhoid-fever morbidity was only 3 per thousand, while in the Indies, where the vaccine of Wright and Leishman is used, this morbidity reaches 15 to 35 per thousand. Among heated vaccines Vincent gives the preference to those which are sterilized at the lowest temperature, especially to the vaccine of Leishmann, which is heated only to 53 C. (127.4 F.), a temperature which is the best to preserve its vaccinogenic power.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, March 21, 1913.

Personal

At his own request, Professor von Olshausen has been retired on account of his age.

Professor Ficker, for many years assistant at the Berlin institute of hygiene, has been given leave of absence, so that he may take charge for one year of the bacteriologic institute at São Paulo, at the request of the Brazilian government.

At the international exposition for social hygiene at Rome, Professor Sommer received a cross of honor, and the clinic conducted by him was awarded a grand prize.

Professor Mönckeberg of Giessen has been called to succeed Professor Lubarsch as director of the institute of pathology at the Düsseldorf academy for practical medicine.

Significance of the Bovine Tubercle Bacillus to Man

The Berliner medizinische Gesellschaft has continued through several meetings—following an address by Professor Orth—a discussion on the subject of the importance of bovine tuberculosis for infection of man. Orth maintained that the bovine bacillus is actually dangerous to man. While the bovine bacillus, either alone or together with the human type, has been found in pulmonary tuberculosis in adults in only a few cases, about 10 per cent. of all tuberculosis in children, according to his own observations, is caused by the bovine type. Similar findings have been made also by other investigators in different countries. The determination of the number of children who remain healthy in spite of drinking milk from tuberculous cows offers no solution of this problem; it is impossible to declare a living child free from tuberculosis, since the absence of tuberculous lymph-nodes can be determined only by necropsy.

The establishment of the disease depends not only on the bacteria but also on the local predisposition. The fact that a person may be injected with bovine tubercle bacilli and remain healthy proves nothing. Since we have learned of the mutation of bacteria we must also consider that one type may change into another. For this reason also the bovine bacillus should not be considered harmless. The immunity acquired during childhood does not prevent a reinfection. A slight degree of reinfection in adults may cause pulmonary tuberculosis. Hence, Orth concluded that a vigorous campaign should be carried on against the bovine tubercle bacillus on the part not only of veterinarians but also of physicians. Professor Westenhöfer took the same stand, in accordance with his experience in Chile. Professor Weber, the new municipal medical councilor of Berlin, declared that judging from the findings of the Imperial Bureau of Hygiene, the danger from the bovine type is small. In his opinion the reasons presented by Professor Orth are not so important. The theory of transformation of the two types is not sufficiently supported. According to Prof. F. Klemperer, even when the bovine bacillus is present in man its significance as a cause of disease has not been shown. As can be seen from the necropsy findings of Naegeli and others, even the true tubercle bacillus is not always infective. Kitasato proved in 1904 that the non-use of cow's milk for food in Japan has no influence on the variety and frequency of tuberculosis. Prof. Max Wolff reported a successful proof of the bovine origin of the bacillus in a case of primary, intestinal tuberculosis by its transmission to a calf.

Dr. Eckert, assistant at the Heubner clinic, reported that among 192 children who were examined for bovine tuberculosis and human tuberculosis with the von Pirquet reaction, ninety-two reacted positively, and of these seventy reacted both to bovine and to human tuberculin; of the remaining twenty-two twelve reacted for the bovine type and ten for the human bacillus.

In opposition to Professor Weber, Professor Orth laid stress in his conclusion on the fact that the bovine bacillus is of significance not only to the individual but also in the spreading of tuberculosis as a nation-wide disease. According to Professor Bendix, 27,000 infants die in Germany annually of tuberculosis. As computed by a member of the Imperial Bureau of Hygiene, 10 per cent. of these deaths are due to the bovine bacillus, so that 2,700 infants die annually of bovine tuberculosis. For the purpose of judging how many there are altogether of those who suffer from bovine tuberculosis, we have at present only the von Pirquet reaction at our disposal. A school physician in Berlin has found it positive in schoolchildren by about 70 per cent. According to this we must assume that 400,000 children are infected annually with the bovine type, and this number is sufficient to justify speaking of it as a nation-wide disease (*Volkskrankheit*). Besides, about half of all lupus cases belong to the bovine type.

Insurance for Disability in 1911

The income from dues of the thirty-one German insurance companies amounted in 1911 to $52,451,405 (209,805,623 marks). In closing the books for 1911 it was found that 141,532 pensions or indemnities were paid in 1911. To meet the demands of the imperial insurance law, $44,805,043 (179,220,174 marks) were expended.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, March 25, 1913.

Ophthalmologic Postgraduate Classes

An interesting experiment was made recently in the clinic of Professor Dimmer, where a number of ophthalmologists had been asked to listen to a series of lectures on the theory of optics for physicians. Two eminent collaborators of the optical institute of Zeiss explained the modern conception of the problems concerned, and showed also Gallsbrand's instruments. Twelve theoretical lectures and eight demonstrations were given, and the difficult subject was explained in a very satisfactory manner, so that a repetition is probable.

The Jubilee Hospital of Vienna

A short while ago the Jubilee Hospital (founded three years ago on the eightieth birthday of our emperor) was opened. It adds another thousand beds to the hospital beds already existing in this city. We have now in Vienna 9,200 beds in public hospitals, or 44 per ten thousand inhabitants. In Berlin the figure is 49 per ten thousand. Therefore, the constant complaint of hospital scarcity which so frequently was heard of, will be hardly justified any longer. It is a fact that in the inclement time of the year (December till May) there was really frequently a lack of hospital accommodations for the poorer classes. This will be done away with for a number of years to come; for we are just now in a period of new hospitals. A large hospital for children is in course of erection, and what we require yet, a large increase in the number of beds for infectious diseases and for the housing of tuberculous persons, is also in stage of preparatory consideration.

The Jubilee Hospital contains one hundred beds for surgery patients of the first and second classes. This is an institution for the middle classes of the population who can afford to pay an adequate fee for operations and hospital treatment, and obtain a good deal of house comfort, which, of course, is out of the question in the wards with ten or twenty-five beds per room. The patients cannot, however, select their medical adviser or surgeon from outside the hospital-staff, and so far there is a difference from the sanatorium or private hospital or "nursery-house" method. Altogether, there are in Vienna about 250 beds already in existence which are governed by the above-mentioned rules. The patients pay from 8 to 12 kronen ($1.50 to $2.50) a day, while the ordinary hospital patient has to pay about 50 to 70 cents a day, or the state has to pay for him. The institution of "paying wards" finds much resistance among the Vienna practitioners, who believe it to be detrimental to their interests. For the ordinary patients the hospital contains twenty-four wards, each holding eighteen beds, and twelve wards for each twenty-six patients. These will accommodate about 750 patients, while about 150 beds are arranged in small rooms holding from two to eight beds each. There are are altogether two medical departments having 238 and 248 beds, one surgical department with 122 beds, one gynecologic department with 82 beds, one dermatologic-syphilitic department with 149 beds, one for 48 cases of diseases of the uropoietic system, 53 ophthalmologic beds and a department for nose, throat and ear cases with 60 beds. A special pavilion for suspicious and infectious cases is situated outside of the hospital, but otherwise the hospital is not built on the system of pavilions, since there are no more than three two-storied large buildings. The divisions between the various departments are given in a vertical, not horizontal, plane. Ample provisions are made for accessory spaces, kitchens, recreation spaces, baths, nurses' rooms and lavatories; there is also a large garden covering an area of 152,000 square meters (200,000 square yards). Of course, all the latest equipment for the outpatient departments, as well as the therapeutic equipment, have been provided for. It is interesting to note that physical therapeutic equipment (hydrotherapy, mechanotherapy, electrotherapy and phototherapy) are now established in all the general hospitals of this city. The hospital is intended, as the statutory regulations say, first, "for the benefit of the patients, and no ill person can be refused admission except when the hospital is filled." It is also a teaching hospital. Treatment must employ the recent achievements of science and practice when appropriate. This is a concession to a public sentiment, which for some time was much propagated by a certain political party, which said that the hospitals regard their inmates only as objects for experiments. This foolish idea was for some time strong enough to cause its consideration in the above-mentioned regulations. At the opening ceremony a few interesting figures were given by one of the speakers. Thus Austria contains now about 59,000 hospital beds; forty years ago it had only 30,000; eighty years ago only 7,000. The population, however, has doubled only within the last eighty years, so that sanitary development as expressed in the number of hospital beds was much faster than expected. At present we have eighteen beds (in Austria) for each ten thousand inhabitants, while Germany has thirty-seven. So there is plenty of work yet to do. But Vienna compares favorably with Berlin in this respect.

Instruction in Medical Ethics and Economics

The Wirthschaftliche Organization, a young but energetic body for promoting the medical and economic interests of our profession, has instituted a novel measure in establishing regular instruction for students of medicine and young graduates of our hospitals in that special branch which has been taught nowhere until now, and which is so important in later life, medical ethics and economics. These instructions will be given in the shape of lectures delivered by experienced practitioners under the three headings, and will cover the relations of the practitioner (1) to the public, (2) the state and municipal authorities, (3) the sick clubs (Krankenkassen). These lectures will also give information regarding taxes and duties (a difficult problem in this country), and the clauses of the old and new penal code which have a bearing on the practice of medicine; they will also teach the young man the problem of fees and the relations between physician and consultant, and instruct him in the routine of keeping books and recording cases. It is thought that this idea of the organization will meet with appreciation on the part of the profession.

Miscellany

Occupational Diseases in Italy.—Italy has long had an institute at Milan devoted exclusively to research on industrial affections and to their treatment, the first of the kind in the world. It publishes a semimonthly journal *Il Lavoro*, now in its sixth volume, which discusses questions connected with the hygiene of wage-workers and prophylaxis of occupational injury. It is edited by L. Devoto, incumbent of the chair of occupational affections, and L. Carozzi privat-docent in the same line. The last number of *Lavoro* reprints the circular which is given to wage-workers. The circular emphasizes the importance of learning the special dangers of each trade and the means to avoid them, and the necessity for a medical examination as the resisting powers differ so widely in different persons. Among other points mentioned are the necessity for scrupulous care of the mouth and teeth, and keeping the nails and hair short. Hot breakfasts are also advised, and the working man is told that he should not return to his usual work at once on recovering from an acute infectious disease. Mouth-breathing should be corrected. The working man who finds his health being impaired by his work owes it to himself, to his comrades and to the trade he is engaged in to place himself in the hands of a competent physician so that his case can be studied as a type. He should also call the attention of a physician to a comrade who he sees is suffering from an occupational affection. The working men who have had a course of treatment at the Milan clinic are proving apostles of hygiene and watchful sentinels when they return to their work. The fourth national conference on occupational affections is to convene at Rome, June 8 to 13, 1913. The secretary is Dr. A. Ranelletti, Lungo Tevere Mellini 17, Rome. Among the subjects to be discussed are hookworm disease, occupational diseases of the blood, and the professional pathology of railroad employees.

Fall River Milk Regulations.—Fall River, Mass., is one of the cities that endeavor to follow the classification of milk and the regulations of the National Committee on Milk Standards, except perhaps as to bacterial requirements. Features of the administration of the milk regulations in Fall River consist of large posters containing the sections of the city ordinance relating to milk production and distribution, and the regulations of the health department concerning the same subjects. These are intended to be posted in dairies and milk depots for the guidance of those engaged in the milk trade, and should serve as a constant reminder of the requirements. In this connection the annual report of the milk and dairy inspection division of the health department contains some interesting comments on the use of whole milk and condensed milk in Fall River. It is shown that on an average, each inhabitant uses 7¼ ounces a day, or less than an ordinary drinking-glassful for all purposes, including that used for cooking in both homes and restaurants. It is stated that the per capita consumption of cow's milk is less and the percentage of infants' deaths is higher in Fall River than in any other city, and it is believed that the use of condensed milk has a very important bearing on the death-rate among the infant population. As the report says, condensed milk is in no sense a substitute for fresh cow's milk; it does not contain the elements of nutrition in proper proportion or relation, and it is too expensive. Attention is called to the fact that eighteen brands of condensed milk in common use when diluted according to directions on the label, using an average of 1 part milk and 3½ parts water, would have an average of 7.29 per cent. of solids and 1.85 per cent. fats, which represents a very inferior quality of milk. The minimum quanty permitted by the statutes must contain 8.81 per cent. solids and 3.35 per cent. fats. The cost of condensed milk when diluted according to the above directions is 10.7 cents per quart. It is therefore said that the public is misled into the use of a very inferior article as a substitute for milk which is neither milk nor a safe substitute, and that they are paying nearly 36 per cent. more for it than for raw cow's milk.

Value of Infant Consultation Stations.—In the experience of The Essex County, N. J., Public Welfare Committee, in the city of Newark infant consultation stations are more efficient in lowering infant mortality than depots for the distribution of modified milk. The committee states as its opinion, as reported by Dr. Julius Levy in a paper read before the pediatric section of the Academy of Medicine of Northern New Jersey, and printed in the report of the committee, that ignorance on the part of the mothers is the greatest single cause of infant mortality, milk being secondary to this. It was found that though modified milk could be obtained at the milk-depots, few mothers could avail themselves of it and most of them were buying filthy store or bottled milk; the committee found that as a result of this the infant mortality from diarrheal diseases was actually higher at the end of the previous decade than at the beginning. It is the opinion of Levy that the milk-depot increases the number of artificially fed children, and that it does not reach the infants which require it most—those with the most ignorant or indifferent mothers, nor indeed when the mortality among infants is highest—during the first three months. The plan adopted in Newark was the establishment of infant consultation stations, with visiting nurses and physicians of the same nationality or speaking the language of the mothers and infants visited by them. The names of the infants were taken from the birth returns, and visits made usually within the first month after birth. It was the plan to induce all mothers, whenever possible, to nurse their infants. It was said that the failure to nurse in most instances is due wholly or largely to ignorance, inherent prejudice and superstitious beliefs that are fostered by anxious grandmothers, ignorant midwives, and also, unfortunately, indifferent physicians. In a less degree this is due to preventable social and economic conditions, overwork, under-nourishment, tuberculosis and other debilitating diseases. When the infants required additional milk, breast-nursing was not stopped, but modified milk was given. A simple plan of modification of milk was adopted and, with the exception of a very few cases, nothing but raw, diluted whole milk, cane-sugar, barley-water and salt were required, and the mothers were instructed how to make the modification of the milk with these materials. Emphasis is laid on the importance of simple milk-modifications, as only in this way, it is asserted, can rational and intelligent milk-modification come into general household and professional use. In the work of home modification emphasis is laid on clean milk, clean bottles and nipples, proper intervals of feeding and the avoidance of additional feeding. In Newark, by special arrangement, milk from tuberculin-tested cows was provided for the infants taken care of in these infant consultation stations. The result during the season of 1912, which this report covers, shows an infant mortality, among the infants taken care of, of 2.3 per cent., and excluding several cases which should properly be excluded, 1.9 per cent.

Development of the House Fly.—The eggs are deposited by the female, about one hundred and fifty in a batch, in manure or decaying organic matter. In a few hours, under favorable conditions, the eggs hatch and a small white grub emerges from each. Finding themselves in the midst of plenty, the larvae begin feeding and eat until the limit of their first skins is reached. Growth in this stage is extremely rapid, and in a few hours the skin is split and discarded, while the second skin, a size larger, supplants the function of the first. Feeding is then resumed and this process is repeated some four or five times. This is not only true of the house-fly but of the majority of the million kinds of insects. Four or five molts is the common number before the grub or caterpillar is full-grown and the next stage begun. In the case of the fly—unlike butterflies and moths—the last larval skin is not cast, but dries and forms the pupal case. I wish to emphasize the fact that the larval stage in insects is the season of growth, and is, moreover, the only period of growth and that after this stage is passed the insect never grows any more in bulk. Thus the next stage after the larva is known as the pupa or the chrysalis, and this is devoted entirely to development. In the house-fly development is very rapid, and is preceded by a process of dissolution, for if a pupa-case be broken open a short time after pupation, it will be found that there are no signs whatever of organs such as legs, wings, or even mouth-parts. A yellowish milky fluid will be found, and from this the complete adult fly is developed, under optimum conditions, in less than a week. Thus from the time the egg is laid until the emergence of the adult fly less than fifteen days may elapse.—C. K. Brain, *Monthly Bulletin*, Ohio State Board of Health.

Louisiana and Child Labor.—In Louisiana game has been the subject of protective legislation since 1857. It was not until nearly half a century afterward that Louisiana saw the need of a child-labor law. From August, 1910, to June, 1911, the Louisiana Board of Commissioners for the Protection of Game Birds and Fish spent in its work of conservation and culture approximately $129,081.86. During the same time only $900 was spent for factory inspection to serve the health, safety and comfort of upward of 76,165 wage-earners, a sum equivalent to twice as much as the Louisiana Oyster Commission spent for postage in one year.—E. F. Brown, member Nat. Child Labor Com.

Association News

ALUMNI TO MEET AT MINNEAPOLIS

College Alumni and Other Reunions Provided for at the Minneapolis Session Next June

The Minneapolis Subcommittee on Alumni Meetings, of which Dr. E. K. Green, 1106 Donaldson Building, Minneapolis, is secretary, offers its services to alumni associations and similar bodies which wish to have reunions in connection with the next annual session of the American Medical Association in Minneapolis, June 17-20. The committee will be glad to assist in arranging meeting-places, advising about entertainment and making a complete list of the gatherings for publication. The committee particularly wants to know in each case whether or not the alumni association intends to provide any entertainment, and if so what sort. The time assigned for all these alumni events is Tuesday night. It is desired that all these events take place on that night, so as not to interfere with events planned for the other evenings.

Hotel Reservations

Members of the Association who are planning to attend the Minneapolis session and who have not already reserved accommodations, can do so by writing either directly to the hotel of their choice (list in The Journal, March 8, 1913, p. 764) or to Dr. S. Marx White, 1106 Donaldson Building, Minneapolis, chairman of the Subcommittee on Hotels. Dr. White's committee will take pleasure in assisting members to find satisfactory lodgings. Requests for reservations addressed to this committee should state whether or not a private bath is desired: the number in the party; how many rooms and exactly the accommodations needed; the approximate rate, American or European plan, that the member plans to pay, and the scientific section in which he will register. It is not only a matter of great convenience to know one's local address before reaching Minneapolis, but, by making these arrangements now, the rush at the time of registration occasioned by the necessity of securing lodgings will be overcome, and the member will be ready to enjoy the scientific program immediately after registering.

Health Boards to Meet

Among the organizations which meet just before the American Medical Association, the Conference of State and Provincial Boards of Health of North America is announced for June 13-14, meeting in St. Paul. Probably some of the meetings will be held on the campus of the University of Minnesota.

Marriages

James Alfred B. Adcock, M.D., Jefferson City, Mo., to Mrs. Mary Sanborn Russell of Warrensburg, Mo., March 29.

Robert James Talbot, M.D., Niagara Falls, N. Y., to Miss Margaretta Mugele of Pittsburgh, Pa., April 2.

James Alexander West, M.D., Hancock, Md., to Miss Helen Venable Bridges of Charlotte, N. C., March 25.

Isaac B. High, M.D., Reading, Pa., to Miss Mary J. Miller of Linfield, Pa., at Philadelphia, March 24.

Earl Stevens Porter, M.D., to Miss Jaunita Blanche Palmer, both of Moore, Mont., March 26.

Delmar Foster Rice, M.D., Toppenish, Wash., to Miss Edith Williamson of Tama, Ia., March 26.

Virgil W. McCarty, M.D., Rosedale, Kan., to Miss Bernice French of Lawrence, Kan., April 12.

Joseph Albert Chatard, M.D., to Miss Alice Marie Wheelan, both of Baltimore, March 26.

Harris Payton Mosher, M.D., to Mrs. Helen A. Clark, both of Boston, March 22.

David F. Monash, M.D., to Miss Edith Mayer, both of Chicago, April 8

Deaths

Jose Manuel Delgado, M.D. Bellevue Hospital Medical College, 1872; acting assistant surgeon U. S. P. H. Service since 1896: a member of the Association of Military Surgeons of the United States; assistant to the chair of clinical and operative surgery in his alma mater from 1872 to 1876; a pioneer in the fight for Cuban independence; shot and macheted and left for dead in 1896; acting assistant surgeon U. S. Army during the Spanish-American War and in charge of charities and hospitals in Puerto Principe during the United States military occupation; for the last ten years on duty with the U. S. P. H. Service at the Ellis Island Immigration Bureau, New York Harbor and a resident of Brooklyn; died in St. Luke's Hospital, New York City, March 31, aged 62.

George McClellan, M.D. Jefferson Medical College, 1870; professor of applied anatomy in his alma mater; a member of the American Medical Association, American Association of Anatomists, Philadelphia Pathological Society and Philadelphia College of Physicians; consulting surgeon to the Howard Hospital, Philadelphia, and professor of anatomy in the Philadelphia Academy of Fine Arts; author of McClellan's "Regional Anatomy"; founder of the Pennsylvania School of Anatomy and Surgery and some-time president of the Philadelphia Medical Club; died at his home, March 29, from heart disease, aged 63.

George Allen Staples, M.D. Chicago Medical College, 1884; College of Physicians and Surgeons, New York City, 1885; a member of the American Medical Association; Mississippi Valley Medical Association, and Chicago Orthopedic Society; formerly a lecturer in the College of Physicians and Surgeons, Chicago; local surgeon in Dubuque for the Illinois Central and Chicago, Milwaukee and St. Paul railroads; surgeon to St. Joseph's, Mercy and Finley hospitals, Dubuque; died from cerebral hemorrhage, April 2, aged 53.

James Clement French, M.D. Pulte Medical College, Cincinnati, 1875; a member of the American Medical Association; until 1884 a practitioner and health officer of Greensburg, Ind.; thereafter a resident of Natchez, Miss.; health officer of the city until 1902, and from 1906 until his death; treasurer of several state Masonic organizations; a man esteemed and beloved by his fellow practitioners and the people at large; died at his home in Natchez, March 19, from nephritis, aged 57.

Arnold Stedman, M.D. Berkshire Medical College, Pittsfield, Mass.; a member of the American Medical Association; president of the general staff of St. Luke's Hospital, Denver, and consulting physician to Mercy Hospital, Denver; a veteran of the Civil War; for several years a member and president of the Denver School Board; one of the founders of the Colorado State Medical Society; while making a professional call, March 22, died suddenly from heart disease, aged 74.

Marcellus B. Shupe, M.D. University of Maryland, Baltimore, 1885; a member of the Medical Society of the State of Pennsylvania; local surgeon for the Baltimore and Ohio Railroad at Connellsville; a member of the Surgical Staff of the Cottage State Hospital; a member of the Board of Health; for three terms a member and once president of the local school board; died at his home, March 22, from the result of injuries received in a runaway accident a year before, aged 49.

Richard M. Gano, M.D. University of Louisville, Ky., 1850; a practitioner of Texas since 1857; a member of the legislature from Tarrant County in 1860 and 1861; brigadier general in the Confederate Army during the Civil War; a clergyman of the Christian Church since 1866; an officer and stockholder in many banks and large business enterprises; died at the home of his daughter in Dallas, March 27, from senile debility, aged 82.

Hugh Angus Stewart, M.D. University of Edinburgh, Scotland, 1904; M. R. C. P. Edinburgh, 1906; assistant professor of pathology in the College of Physicians [illegible] New York City; a member of the New York [illegible]; who was engaged in important research work on the adrenal bodies; died in the Willard Parker Hospital, March 29, from scarlet fever, aged 30.

John Samuel Shibley, M.D. University of Nashville, Tenn., 1870; of Paris, Ark.; a member of the American Medical Association and president of the Logan County (Ark.) Medical Society; first superintendent of the State Sanatorium for Tuberculosis, Booneville; died in a hospital at Rochester, Minn., March 26, three weeks after a surgical operation, aged 69.

William Greenshields, M.D. Glasgow, 1859, L. & F. P. & S., Glasgow; a pioneer practitioner of Romeo, Mich.; formerly a member of the American Medical Association; died at his home, about March 29, aged 76.

Richard Pearce Francis, M.D. Harvard Medical School, 1888; a member of the American Medical Association; head of the Mountainside Hospital, Montclair, N. J., and for many years a member of the Montclair Board of Health; was injured in a collision between his automobile and another machine, March 29, and died a few hours later in Mountainside Hospital, aged 51.

Ira Thompson Van Gieson, M.D. College of Physicians and Surgeons, New York City, 1885; a bacteriologist in the research laboratory in the New York Department of Health; from 1896 to 1901 director in the State Pathologic Institute, Ward's Island; died in Bellevue Hospital, New York City, March 24, from myocarditis, aged 47.

James W. Norris, M.D. Starling Medical College, Columbus, O., 1896; formerly a member of the Ohio State Medical Association; for several years president of the Monroe County Medical Society; vice-president of the First National Bank of Woodsfield, O.; died at his home in that place, March 18, from tuberculosis, aged 43.

Josiah Hasbrouck, M.D. Albany (N. Y.) Medical College, 1885; since 1886 a practitioner of Port Ewen, N. Y.; sheriff of Ulster County from 1901 to 1903; formerly president of the Ulster County Medical Society; town supervisor in 1895; died in the Astor Sanitarium, New York City, March 25, from diabetes, aged 48.

Joseph W. McBride, M.D. Memphis Hospital Medical College, 1896; formerly a member of the American Medical Association; a member of the Tennessee State Medical Association and of the Board of Education of Covington; died in St. Joseph's Hospital, Memphis, March 26, after a surgical operation, aged 45.

Harry Raymond Bennett, M.D. Dartmouth Medical School, Hanover, N. H., 1897; of Bridgeport, Conn.; relief doctor at the Emergency Hospital, Bridgeport; for one term a member of the board of aldermen; died in St. Vincent's Hospital, Bridgeport, March 22, from pneumonia, aged 38.

James Strong Cameron, M.D. University of California, San Francisco, 1868; a member of the American Medical Association; a Confederate veteran and since the close of the Civil War a practitioner of Red Bluff, Cal.; died at his home, March 24, from heart disease, aged 70.

Nannie May Latimer, M.D. Western Pennsylvania Medical College, Pittsburgh, 1908; a member of the American Medical Association; formerly of Tarentum, Pa.; a missionary of the Presbyterian Board in Lien Chow, China; died in that place, March 15, aged 34.

Benjamin Van Etten Dolph, M.D. Syracuse (N. Y.) University, 1899; of Sodus, N. Y.; later a resident of Colorado on account of ill health, and electrician of the New York State Railway; died in Myers Hospital, Sodus, March 26, from nephritis, aged 38.

Algernon S. Barnes, M.D. University of Missouri, Columbia, 1855; formerly dean of the St. Louis College of Physicians and Surgeons and a member of the Missouri State Medical Association; died at his home in St. Louis, March 30, from arteriosclerosis, aged 82.

Stradford Straus Dupee, M.D. Howard University, Washington, D. C., 1898; a colored practitioner of Evansville, Ind.; died in the Crescent Sanitarium in that city, March 30, from embolism of the inferior mesenteric artery, complicated with appendicitis, aged 41.

Richard Love Johnson, M.D. Medical College of the State of South Carolina, Charleston, 1861; a member of the South Carolina State Medical Association; local surgeon of the Frisco system at Rolla, Mo.; died at his home, about March 11, aged 71.

Warren F. Reed, M.D. University of Michigan, Ann Arbor, 1866; a member of the Ohio State Medical Association; president of the bank of Ottawa; a pioneer practitioner of Putnam County; died at his home in Ottawa, March 29, from acute gastritis, aged 73.

Williamson C. Pace, M.D. Washington University, St. Louis, 1854; a surgeon during the Civil War and a practitioner of Ashley, Ill., for half a century; died at the home of T. H. Benton in that place, March 25, from cerebral hemorrhage, aged 82.

Frank Hamilton Peltier, M.D. New York University, New York City, 1887; at one time a member of the Medical Corps of the First Infantry, N. G., Conn.; was found dead in his apartment in Hartford, March 21, from heart disease, aged 48.

Joseph L. Kitchen, M.D. Northwestern University Medical School, Chicago, 1869; a veteran of the Civil War; formerly a practitioner of Wyanet, Ill., and Sentinel Butte, N. D.; died at his home in Harvey, Ill., March 20, from nephritis, aged 69.

Chester E. Kleven, M.D. Wisconsin College of Physicians and Surgeons, Milwaukee, 1912; a veteran of the Spanish-American war, with service in Cuba; died at his home in Lodi, Wis., March 21, from tuberculosis, aged 28.

Lewis Hayward Hazeltine, M.D. Medical College of Ohio, Cincinnati, 1865; assistant surgeon of the Eighth Ohio Volunteer Cavalry during the Civil War; died at his home in Clarksville, Mich., March 18, aged 75.

Grant Stanley, M.D. Cornell University, New York City, 1904; a member of the American Medical Association; of Sea Cliff, L. I.; died in the Seney Hospital, Brooklyn, March 25, from diphtheria, aged 38.

Luther Jacob Saeger, M.D. University of Pennsylvania, Philadelphia, 1899; a member of the American Medical Association; died at his home in Allentown, March 24, from disease of the lungs, aged 35.

Samuel Richmond, M.D. Medical College of Virginia, Richmond, 1912; an intern in the Atlantic City (N. J.) Hospital; died at the home of his father in Passaic, N. J., March 31, from heart disease, aged 24.

John J. Brady, M.D. Detroit (Mich.) College of Medicine, 1897; formerly city physician of Jackson, Mich., and for two years coroner of Jackson County; died in Marshall, Mich., March 22, aged 39.

Thomas Henry McCarthy, M.D. Rush Medical College, 1901; a member of the American Medical Association; died suddenly at his home in Madison, Wis., March 30, from cerebral hemorrhage, aged 37.

Mayberry S. Reber, M.D. University of Pennsylvania, Philadelphia, 1863; until 1897 a practitioner of Shoemakersville, Pa., and later a resident of Reading; died at his home, March 26, aged 75.

Clarence Brock Goddard, M D. Denver and Gross College of Medicine, Denver, 1901; a member of the Kansas Medical Society; died at the home of his parents in Leavenworth, March 30, aged 32.

Samuel John Power, M.D. University of Michigan, Ann Arbor, 1882; at one time small-pox physician of Evansville, Ind.; died in the Lottie Hotel in that place, March 23, aged 52.

Frederic A. Mickel, M.D. University of Arkansas, Little Rock, 1893; of Van Buren; died in a hospital in Fort Smith, March 16, a few days after a surgical operation, aged 62.

Jane Elizabeth Bigelow, M.D. Johns Hopkins Medical School, Baltimore, 1912; of Terre Haute, Ind.; died in a hospital in New York City, March 11, from scarlet fever, aged 25.

James Tucker Cutler, M.D. Harvard Medical School, 1894; Boston University School of Medicine, 1894; died at his home in Roxbury, Boston, about March 28, from pneumonia.

Charles E. Bennett, M.D. Hospital Medical College, Eclectic, Atlanta, Ga., 1910; of Pensacola, Fla.; died at his old home in Owensboro, Ky., March 21, from nephritis, aged 44.

Richard E. Martin, M.D. Washington University, St. Louis, 1873; a member of the American Medical Association; died at his home in Bonham, Tex., March 21, aged 63.

William H. Wise, M.D. Toledo (O.) Medical College, 1885; a member of the State Medical Association of Texas; died at his home in Alvin, Tex., March 30, aged 59.

Joshua Monroe Shaffer, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1857; died at his home in Keokuk, March 9, from cerebral hemorrhage, aged 82.

Frank Warren Chamberlin, M.D. College of Physicians and Surgeons, New York City, 1892; died at his home in New York, March 29, from heart disease, aged 52.

Charles B. W. Cox (license, Nebraska, 1891); one of the earliest settlers of Blaine County; died recently at his home in Brewster, aged 60.

James A. Conaway (license, Maryland), for many years a practitioner of Dorchester County; died at his home in Hoopersville, March 19.

Jovite A. LaPointe (license, Maine, act of 1895); for thirty-five years a practitioner of Biddeford; died at his home, March 23, aged 69.

Jesse D. Burke (license, Michigan, 13 years of practice, 1900); died at his home in Detroit, March 15, from pneumonia, aged 76.

Francis X. Spranger, Jr., M.D. Pulte Medical College, Cincinnati, 1890; of Detroit; died in Milan, Italy, February 17, aged 44.

Edwin Folsom (license, N. Dak., 1907); a veteran of the Civil War; died at his home in Fargo, March 21, aged 71.

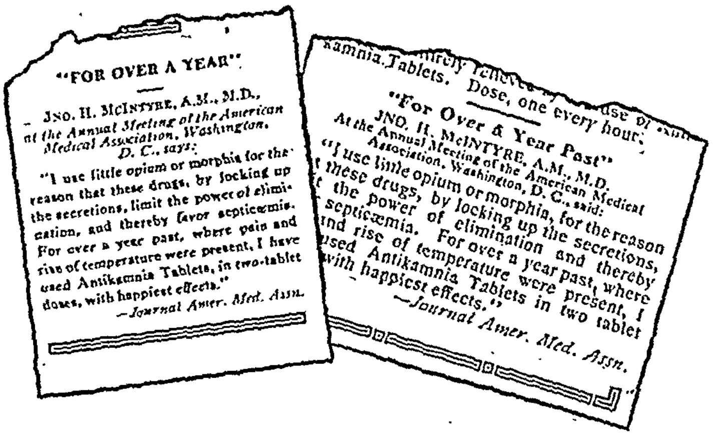
The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

AGAIN, ANTIKAMNIA

In season and out of season, The Journal has exposed the Antikamnia fraud until it would seem that its readers would become weary of the very name. There is nothing new to say about this dangerous stuff, and yet the number of inquiries indicates that thousands of The Journal's readers do not know of the previous exposures. More than fifteen years ago The Journal ceased carrying the Antikamnia advertisement; more than ten years ago it notified its readers that the nostrum was being advertised to the public by means of circular letters; more than six years ago it proved that, when the Food and Drugs Act went into effect, acetphenetidin had been substituted for acetanilid in Antikamnia evidently in order that the presence of the older drug, of whose dangers the public had been made aware might not have to be admitted; more than five years ago The Journal showed that the Antikamnia sold in the British Isles still contained acetanilid, and as late as last October it verified this statement although threatened with prosecution for libel by the Antikamnia Chemical Company.

Yet, in spite of all these exposures, not a week passes that we do not receive one or more letters calling attention to the Antikamnia fraud. Most of these letters deal with one, or more, of three points: first, the fact that the stuff is being advertised to the public by means of circular letters and that sample "vest-pocket boxes" of this dangerous drug are being sent through the mail to laymen; second, that Antikamnia is being advertised in newspapers, and, third, that in the booklets sent out by the Antikamnia Chemical Company both to the medical profession and to the public, a paragraph is quoted from an article by Dr. John H. McIntyre that appeared in The Journal.



"FOR OVER A YEAR".

Jno. H. McIntyre, A.M., M.D., at the Annual Meeting of the American Medical Association, Washington, D. C., says:

"I use little opium or morphia for the reason that these drugs, by locking up the secretions, limit the power of elimination, and thereby favor septicæmia. For over a year past, where pain and rise of temperature were present, I have used Antikamnia Tablets, in two-tablet doses, with happiest effects."

—*Journal Amer. Med. Assn.*

amnia Tablets. Dose, one every hour,

"For Over a Year Past"

JNO. H. McINTYRE, A.M., M.D. At the Annual Meeting of the American Medical Association, Washington, D. C., said:

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—*Journal Amer. Med. Assn.*

Fig. 1.—Reproductions of portions of pages in the booklets sent out by the Antikamnia Chemical Company to physicians (on the right), and laymen (on the left), respectively. Those who do not realize the character of the Antikamnia concern naturally imagine that the quotation here given from The Journal *is a comparatively recent one. Notice that no dates are given. As a matter of fact, it is twenty-two years old. Dr. McIntyre, who wrote it, has been dead eleven years.*

The first two points have already been discussed so frequently that it seems hardly worth while to take them up again in detail, though it might be said that the medical profession has at last become so familiar with this wide-spread humbug that the Antikamnia Chemical Company has finally gone over body and soul to the newspapers. So far as we can learn only three publications professing to be medical journals still carry the Antikamnia advertisement. These three are:

Southern Practitioner
Therapeutic Record
Pacific Medical Journal

As is usual in such cases, the British medical journals are not so particular, and we still find Antikamnia advertised in:

Medical Press and Circular
Glasgow Medical Journal
Journal Tropical Medicine and Hygiene
Dublin Journal Medical Science
Lancet
Canada Lancet
Practitioner

The reproduction of the McIntyre quotation is evidently adopted by the Antikamnia concern as a means of "playing even" with The Journal for the unpleasant things it has said about it. In quoting Dr. McIntyre, the Antikamnia Chemical Company carefully avoids giving the date on which the article appeared. As a matter of fact, the article was printed in The Journal over twenty years ago (July 4, 1891), and Dr. McIntyre himself has been dead for eleven years. Presumably, however, the Antikamnia Chemical Company will continue to mislead, either directly or by inference, until the end of the chapter.

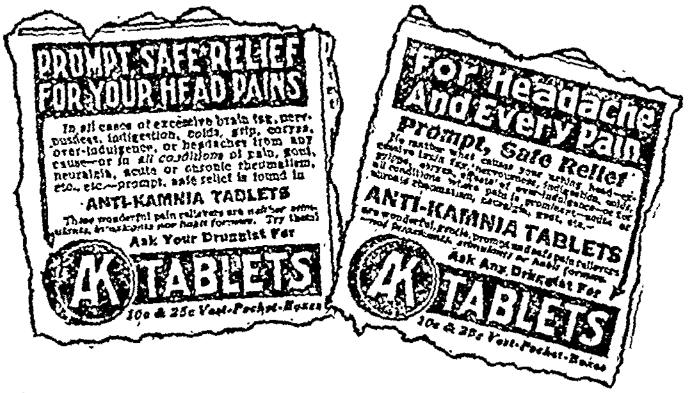
PROMPT SAFE RELIEF FOR YOUR HEAD PAINS
ANTI-KAMNIA TABLETS
Ask Your Druggist For
AK TABLETS
10c & 25c Vest-Pocket-Boxes
For Headache And Every Pain
Prompt, Safe Relief
ANTI-KAMNIA TABLETS
Ask Any Druggist For
AK TABLETS
10c & 25c Vest-Pocket-Boxes

Fig. 2.—Photographic reproductions of two typical Antikamnia advertisements now appearing in newspapers all over the country. *These tablets are advertised in various newspapers as being "safe" and neither "depressant' nor "habit-forming".—three separate and distinct falsehoods.*

SOME PRESUMABLY SAFE FLOURS AND FOODS FOR DIABETICS

The article on "Flours and Foods for Diabetics" that appeared in The Journal, March 22, has brought a large number of inquiries, requesting the names of products containing low percentages of carbohydrates. The chemical laboratory of the Association is at present examining several products of this kind, and as soon as the investigations are completed, the results will be published in The Journal. In the meantime the following list is given tentatively. The figures represent the claims made by the manufacturers for their products; The Journal cannot stand sponsor for these figures but we believe that the figures are substantially correct:

Herman Barker, Somerville, Mass.	
Gluten Food, A	2 per cent. carbohydrates
Gluten Food, B	5 to 7 per cent. carbohydrates
Gluten Food, C	9 to 12 per cent. carbohydrates
Thomas Leeming & Co., 99 Chambers Street, New York.	
Casoid Flour, N. N. R. (an albuminous, not a gluten flour)	carbohydrate-free
Casoid Crackers No. 1	2.88 per cent. carbohydrates
Casoid Crackers No. 2	carbohydrate-free
Casoid Crackers No. 3	4.22 per cent. carbohydrates
Health Food Company, 25 Lexington Avenue, New York.	
Proto Puff No. 1	6.71 per cent. carbohydrates
Almond Flour (meal)	7.85 per cent. carbohydrates
Huntley & Palmer.	
Akoll Biscuit, said to contain "traces" of carbohydrates.	
Kellogg Food Company, Battle Creek, Mich.	
80 per cent. Gluten Flour	7 to 10 per cent. carbohydrates

As has been said, we cannot vouch at present for any of these figures except those of Casoid Flour. This product has already been subjected to analysis, passed on by the Council on Pharmacy and Chemistry and is now in New and Nonofficial Remedies. We hope, however, in the near future to be able to give the results of the examination of the Association's chemists.

Correspondence

Articles Published by Dr. F. F. Friedmann

To the Editor:—Although the medical profession of this country may not be favorably impressed to-day with the claims made by Friedmann, and although he has not definitely announced whether the substance he is now using is the same as the culture employed in his earlier experiments or derived from it, yet it is of interest to review briefly his original articles.

The first publications by Friedmann concerning this subject appeared in the year 1903 and were four in number, the earliest entitled "Spontaneous Pulmonary Tuberculosis with Large Cavity in a Turtle (Chelone Corticata)" (Spontane Lungentuberkulose mit grosser Kaverne bei einer Wasserschildkröte [Chelone corticata], *Deutsch. med. Wchnschr.*, Jan. 8, 1903). In this article Friedmann states that except for an occasional dubious report there had previously been no description of an authentic case of spontaneous tuberculosis of the lungs in a cold-blooded animal. The case he reports, which he asserts was the first of the kind to be reported, occurred in a turtle which died in the Berlin Aquarium and was examined post mortem. The lungs were later sent to Friedmann and showed many tubercles, caseous foci and cavity formation. Microscopic preparations stained in the usual way showed all stages of the tuberculous process and incredible masses of acid-fast bacilli which could in no way be distinguished from the mammalian type of organism.

The second article appeared shortly after, under much the same title (Spontane Lungentuberkulose bei Schildkröten und die Stellung des Tuberkelbazillus im System, *Ztschr. f. Tuberk.*, iv, No. 5.) Here the findings are more fully described, and the necropsy report of a second turtle with similar lesions is given. In addition there is a careful history of the study of tubercle bacilli in cold-blooded animals with a long list of references.

The third article (Der Schildkrötentuberkelbazillus, seine Züchtung, Biologie und Pathogenität, *Centralbl. f. Bakt.*, 1903, xxxiv), concerns Friedmann's studies of the organism obtained from the turtle and deals with the cultural characteristics and pathogenicity of the strain. Cultivation was readily performed and the optimal temperature was found to be 37 C. (98.6 F.). The results of about fifty animal inoculations are quoted; all the cold-blooded animals, except two, died, whereas none of the warm-blooded series was affected except the guinea-pigs, which were killed by enormous doses, but were unaffected by smaller amounts. As a result of these studies Friedmann concluded that the turtle bacillus was a much nearer relative of the human and bovine strains than any of the various other cold-blooded strains, or even the avian bacillus of Koch.

The title of the fourth article, "Immunization Against Tuberculosis" (Immunisierung gegen Tuberkulose, *Deutsch. med. Wchnschr.*, December, 1903, abstr. The Journal, Jan. 9, 1904, p. 136), shows the trend of Friedmann's investigations, and his succeeding articles all concern this subject. After a preface about immunity in general, he describes his discoveries and studies of the turtle bacillus, and asserts that it is especially suited for producing immunity. The culture is described as follows: 1. Optimal growth occurs at 37 C. 2. The culture is indistinguishable at that temperature from the human strain. 3. It produces in the guinea-pig a specific tuberculosis at the site of injection but localized and going on to healing. In a series of the smaller animals injected, none suffered any ill effects, and they reacted very differently from uninjected controls when injected later with lethal doses of human bacilli. The controls died in from four to six weeks from generalized tuberculosis, whereas the immunized animals showed at the site of the injection of the human bacilli an infiltration which, however, remained soft, later discharged a little caseous matter and healed up entirely. These animals sometimes showed a slight swelling of the regional lymph-nodes, but they lost no weight, suffered no impairment of general health, and at autopsy, three months later, showed no evidence of tuberculosis. On the basis of these results Friedmann held that the turtle bacillus was a harmless, immunity-conferring substance.

During the following year, 1904, Friedmann published three articles all on more or less the same lines. The first (Zur Frage der aktiven Immunisierung gegen Tuberkulose, *Deutsch. med. Wchnschr.*, January, 1904), is apparently in response to certain critics who had compared his attempts to produce immunity with those of experimenters working with strains of tubercle bacilli attenuated in virulence by residence in some cold-blooded animal, as that of Moeller which was injected into a blindworm and later recovered for use. Friedmann maintained that his theory and technic were more scientific, and his results more successful. The other two types of tubercle bacilli strains used in attempts to produce immunity had been, first, those strains which occur apparently as harmless saprophytes in many cold-blooded animals, such as the fish bacillus of Bataillon, Dubard and Terre; and second, the bacilli, variously modified, by passage through a cold-blooded animal, as Moeller's through the blindworm, and Bataillon, Lubarsch and Dieudonné's through the frog.

The next article (Ueber Immunisierung von Rindern gegen Tuberculose [Perlsucht] und über Tuberculose-Serumversuche, *Deutsch. med. Wchnschr.*, 1904, xxx), concerned the use of the culture for immunizing cattle; in this it is stated that the turtle-bacillus is completely harmless for young or old cattle, and that by the use of proper technic a very high grade of immunity can be produced through a single injection. The third article appearing in 1904 (Ueber Immunisierung gegen Tuberkulose, *Therap. Monatsch.*, 1904, xviii), takes up no new points and merely covers the same ground.

In 1905 Friedmann published one article (Zur Tuberculose-immunisierung mit Schildkrötentuberkelbazillen, *Deutsch. med. Wchnschr.*, Feb. 2, 1905), in response to a criticism by Libbertz and Ruppel in the same number of the same journal. These authors had investigated Friedmann's culture and had concluded (1) that it was not absolutely harmless to warm-blooded animals; (2) that intravenous injections of Friedmann's culture did not in warm-blooded animals prevent a later infection with tuberculosis, and (3) that tuberculous immune bodies were not produced by its injection. Friedmann accuses these authors of unfairness since they were familiar with his work and saw his manuscripts, but withheld all comment until after publication. He denies all their conclusions and reiterates his own results.

From 1905, for seven years Friedmann's name does not appear in the *Index Medicus*, and no reference to any publication by him is found until 1912, when his well-known article appeared in the *Berliner klinische Wochenschrift*. From the statements made in this article and from the figures quoted it seems probable that the culture formerly employed and only meagerly described in the articles which I have abstracted is the same as the one Friedmann is now injecting, or that it is at least the basis for the present preparations.

O. H. Perry Pepper, M.D., Philadelphia.

Inoculability of Cancer—A Question of Priority

To the Editor:—An interesting editorial note (The Limitations of Specificity in the Transmission of Disease, The Journal, March 1, p. 675), on the inoculability of cancer in different species of animals, gives the impression that those observations and experiments are only recent in time. In the good name of American science, I refer you to the Proceedings of the Academy of Natural Science, Philadelphia, May and June, 1851, in which the late Joseph Leidy repeats the results of his experiments on the inoculability of cancer. The experiments were conducted at the Academy of Science, and from the results obtained by introducing portions of (human) cancerous tissue into frogs, Leidy observed after a full description and demonstration before the academy, that "the experiments not only proved the independent vitality of tissues, which was generally admitted, but rendered it exceedingly probable that cancer was inoculable, for as, in the experiments the cancerous fragments continued to live when introduced into cold-blooded animals, they would probably not only continue to live when introduced into warm-blooded animals but would grow or increase in size." These experiments were undertaken in connection with a series of others on the transplantation of animal tissues.

Joseph Leidy, M.D., Philadelphia.

Prophylactic Measures Against Typhoid in Flood Area First Taken by the Red Cross

To the Editor:—In your editorial, "President Wilson Rises to an Emergency" (The Journal, April 5, 1913, p. 1079), you mention the fact that the federal authorities sent a quantity of antityphoid serum into the flooded districts in Ohio. While this is true, the first actual prophylactic measures against typhoid were taken at the request of the Cincinnati Chapter of the Red Cross, of which I was the temporary medical director.

The serum was made in the laboratories of the Cincinnati Hospital by Prof. W. H. Wherry and his assistants, and was first administered at Miamisburg by Dr. W. Lucas, and at Hamilton by Major F. Hendley of the Ohio National Guard Hospital Corps. In all about 1,000 doses were sent out by this organization, with the necessary instructions as to the proper use and after-treatment, and with orders to make the needed clinical notes for future use.

Herbert A. Brown, M.D., Cincinnati.

A Misleading Advertisement

To the Editor:—In various newspapers in this country there is now being published an advertisement which to the careless reader makes it appear that I approve of a certain proprietary preparation. To those who know me it is needless to say that this is without my knowledge or consent. I have placed the matter in the hands of my lawyer, and will see what can be *done to stop it.*

V. C. Vaughan, M.D., Ann Arbor, Mich.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

HOW TO GIVE CASTOR OIL—LAXOL NOT APPROVED

To the Editor:—Enclosed is a circular on Laxol. 1. Would you advise me to use it? 2. If not, kindly give a method by which castor oil can be made *less distasteful* to children.

C. Ulysses Moore, M.D., Carthage, S. D.

Answer.—1. No. You do not know the composition of Laxol, nor do we. We have no means of knowing whether or not the claims made for it are truthful. In general, short catchy titles for well-known remedies are objectionable. In the case of Laxol, confusion with the poisonous Lysol has caused death (The Journal, Nov. 23, 1912, p. 1895).

2. Methods by which unpalatable *remedies* can be given with the least discomfort should be known to every physician.

Castor oil is disagreeable to some persons largely because of its oily character, to others because of the *disagreeable taste* peculiar to it. When the *stomach* rejects castor oil it is often because of the taste left in the mouth, or because of the psychic impression which attends the taking of the dose. The simplest method of taking castor oil is *to take* some steps to prevent the oil from coating the mouth and then to swallow it quickly. Simple methods for this purpose are as follows:

Prepare two warmed cups, one about half full and one about one-quarter full of a hot liquid, such as milk or coffee, and place the dose of oil on the surface of the smaller portion. Wet the mouth with the liquid from the half cup and then quickly drink all the contents of the *other cup*, finally drinking more from the *first cup*. Heating the mouth in this way prevents the oil from clinging to it except very slightly, and that little is promptly washed off. Care should be taken, of course, by sampling in advance, to see that the fluid is about as hot as can be drunk quickly and yet not hot enough to burn.

A more simple *method can* be used *if it will* suffice. Heat the oil and administer the *dose in a tablespoon* heated by being dipped in hot water. Then rinse the mouth with hot water, hot milk or other liquid.

There are *more* complicated methods, including the giving of castor oil in effervescent drinks at soda *fountains, the* oil floating between the *foam* and the *watery* liquid, or it may be prescribed in the form of an emulsion. Such an emulsion is official in the *National Formulary* as "Emulsum Olei Ricini." The composition of this preparation is as follows:

		gm. or c.c.		
℞	Castor oil	30		℥ i
	Acacia in fine powder	8		ʒ ii
	Tincture of vanilla	2	50	♏ xl
	Syrup (U. S. P.)	20		ʒ vi
	Water, a sufficient quantity to make	100		℥ iiiss

The other source of unpalatableness is the disagreeable taste peculiar to castor oil. This is overcome by the use of *saccharin* (benzosulphinidum, U. S. P.), vanillin, aromatic oils, etc. The following formulas may be used:

		gm. or c.c.		
℞	Compound tincture of cardamom	8		ʒ ii
	Cinnamon water	20		ʒ vi
	Castor oil	30		℥ i
	Brandy	0	30	♏ v

Mix the first two ingredients in a glass, carefully add the oil and drop the brandy on the surface of the oil. This mixture is for immediate use.

Other formulas are:

		gm. or c.c.		
℞	Saccharin	0	06	gr. i
	Oil of cinnamon	0	15	♏ ii
	Vanillin	0	13	gr. ii
	Alcohol	4		ʒ i
	Castor oil	90		℥ iii

Dissolve the *oil of cinnamon, saccharin and* vanillin in the alcohol, add the castor oil and mix thoroughly.

		gm. or c.c.		
℞	Castor oil	30		℥ i
	Glycerin	30		℥ i
	Peppermint oil	0	15	♏ ii

TREATMENT FOR WHIPWORM

To the Editor:—Examination of feces for uncinaria ova has developed the fact that my patients are, many of them, heavily infested with *Trichuris trichiura* (whipworm) which, from the literature available, I had thought a rather rare and from a clinical standpoint unimportant parasite. From personal observation I am inclined to *reject the theory of its unimportance.* Could you publish formulas for anthelmintics to be used against this worm, also references to literature on the *subject of intestinal parasitology?*

H. C. Bevins, M.D., Thomas, Ky.

Answer.—Recent investigations have shown that the pathogenic rôle of *Trichocephalus dispar* (whipworm) is more extensive than is represented in most text-books. It has been shown to cause *enteritis, diarrhea, anemia*, etc.

The treatment is said to be unsatisfactory, as the ordinary anthelmintics seem to have no effect. Thymol and male-fern are recommended. An emulsion of benzin may be given by enema, benzin 4:1,000 or 1 fluidram to a quart of water. A strong infusion of quassia has also been recommended.

The subject of intestinal parasites is too extensive to permit us to give an *exhaustive list* of references here. The following are recent publications on trichocephalus:

Wade, B. N.: A Case of Enteritis from Trichocephalus Dispar, The Journal, March 11, 1911, p. 743.

Code, A. and Garin, C.: Six Cases of Trichocephalus Dispar Enteritis, *Arch. mal. l'app. digestif,* June, 1910; abstr. in The Journal, Aug. 13, 1910, p. 628.

Stcherbak, A.: The Rôle of the Trichocephalus in Pathology, *Rev. de méd.,* August, 1910; abstr. in The Journal, Oct. 8, 1910, p. 1328.

Cecil and Bulkley: Lesions Produced in the Appendix by Oxyuris Vermicularis and Trichocephalus Trichiura, *Jour. Exper. Med.,* March, 1912.

Carletti, M. V.: Occult Blood in Stools with Trichocephalus, *Gazz. d. osp.,* April 24, 1910.

Gage, J. G.: Amebic Enteritis with Uncinaria, Trichocephalus and Trichomonads: Result of Treatment After Four Years, *New York Med. Jour.,* December, 1909.

Musgrave, W. E.: Trichocephaliasis, *Philippine Jour. Sci.,* December, 1908.

Stiles and Garrison: A Statistical Study of the Prevalence of Intestinal Worms in Man, *Hygienic Laboratory Bulletin No. 28,* U. S. Public Health Service.

ARTICLES ON THE METHOD FOR PREPARING IODIZED CATGUT

To the Editor:—Please inform me as to the following:

1. What is the technic for preparing iodized catgut?
2. Will the catgut deteriorate if kept in the iodin solution?
3. Does boiling of plain catgut injure its consistency and strength?

W. S. N.

Answer.—1. Following is a list of articles describing the method for preparing iodized catgut:

Johnson, F. W.: I. K. I. Method of Sterilizing Catgut. *Boston Med. and Surg. Jour.*, Feb. 9, 1905; abstr., The Journal, Feb. 25, 1905, p. 657.
Nancrede, C. B.: Waldron, F. R., and Tenney, C. F.: *Jour. Mich. State Med. Soc.*, November, 1905; abstr., The Journal, Dec. 16, 1905, p. 1906.
Bartlett, W.: A Simplified Heat Method of Sterilizing and Storing Catgut, The Journal, April 21, 1906, p. 1168.
Queries and Minor Notes Department, The Journal, Oct. 16, 1909, p. 1312, and Sept. 1, 1906, p. 703.
Riddell, J. S.: Iodin Spirit Catgut, *Brit. Med. Jour.*, April 6, 1907.
Steward, F. J.: Formalin-Iodin Catgut, *Brit. Med. Jour.*, Oct. 2, 1909; abstr., The Journal, Oct. 30, 1909, p. 1516.

2. It is stated that catgut keeps indefinitely in the iodin solution.

3. Yes.

"MAYR'S WONDERFUL STOMACH REMEDY"

To the Editor:—Please let me know the contents of "Mayr's Wonderful Stomach Remedy" manufactured by George H. Mayr, 154 Whiting Street, Chicago. Some of my patients have asked me about it. Some say it causes gall-stones to pass, etc.

T. E. T., Texas.

Answer.—"Mayr's Wonderful Stomach Remedy" closely resembles "Fruitola" in its general composition and workings. Both consist of bland oil and cathartic salts. Our chemists found "Fruitola" to be essentially olive oil and the well-known Seidlitz powders. Mayr's "wonderful remedy" proved to be essentially olive oil and Rochelle salts. Large doses of bland oil followed by salts cause the passage of greenish soapy concretions which the credulous are led to believe to be gall-stones.

For detailed reports of these frauds, see The Journal, Sept. 24, 1910, p. 1128; Aug. 9, 1911, p. 671; March 29, 1913, p. 1016; "Nostrums and Quackery" (second edition), pages 479 and 482. This material is also reprinted as a pamphlet (price 4 cents), entitled "Fake Gall-stone Cures."

ARTICLES ON TRICHINOSIS

To the Editor:—Please give me a list of publications that have appeared on the subject of trichinosis.

M. M.

Answer.—Following is a list of articles on trichinosis which have appeared within the past two years. For further references we would suggest that our correspondent consult the Index to Current Medical Literature, published by the American Medical Association.

Trichinosis, Therapeutics Department, The Journal, Feb. 4, 1911, p. 348.
Danger of Trichinosis from Pork, correspondence, The Journal, March 4, 1911, p. 687.
Morgan, W. A.: Trichinosis Developing During the Puerperium, Bulletin of Lying-In Hospital, New York City, March, 1911.
Lamb, A. R.: Embryos of Trichinella Spiralis in Blood of Patients Suffering from Trichiniasis, *Am. Jour. Med. Sc.*, September, 1911.
Runkel, G. H.: An Epidemic of Trichinosis, *California State Jour. Med.*, July, 1912.

OCCURRENCE OF THE RUSSO REACTION

To the Editor:—Please tell me in what diseases and conditions a positive Russo reaction occurs.

C. K.

Answer.—The test is given in measles, small-pox, chronic and suppurative tuberculosis and in typhoid. It is also positive in a considerable number of normal cases. The Russo reaction was described in The Journal, Aug. 10, 1912, p. 465.

INFORMATION ON THE INTERNATIONAL MEDICAL CONGRESS

To the Editor:—Where can I learn about the International Medical Congress and who the American secretary is? You have touched on the matter in The Journal, but I paid no attention to it, as I did not know until very recently that I would be able to get away to go abroad this summer.

S. C., Denver.

Answer.—The International Medical Congress will meet in London, Aug. 6-12, 1913. The secretary of the American committee is Dr. A. R. Allen, 2013 Spruce Street, Philadelphia. On request he will send information as to the program, the method of registration, etc. The Journal, Feb. 3, 1912, p. 356, contained a statement from our London correspondent concerning the congress, and in The Journal, July 27, 1912, p. 285, there is additional information.

A group of American physicians is planning, in connection with this congress, to take a trip through Europe, as announced in The Journal, Jan. 4, 1913, p. 66. Dr. J. M. Anders, 1605 Walnut Street, Philadelphia, chairman of the newly organized American Society for Physicians' Study Travels, desires to hear from any who wish to join this party.

LITERATURE ON INFECTIONS OF THE HAND

To the Editor:—Please refer me to literature on infections of the hand.

A. T. Downing, M.D., Littleton, N. H.

Answer.—A good book on infections of the hand is by Kanavel. In addition, the following articles may be consulted:

Pellrs, W. H.: Hand Infection Apparently due to Bacillus Fusiformis, *Jour. Infect. Dis.*, June, 1911.
Garner, H. B.: Surgery of Soft Tissues of the Hand, *Detroit Med. Jour.*, September, 1911.
Moorhead, S. W.: Treatment of Infections of Hands and Fingers with Special Reference to Tenosynovitis, *St. Louis Med. Rev.*, October, 1911.
Corner, E. M.: Cellulitis of Hand, *Practitioner*, London, February, 1912.
Hughes, B.: Treatment of Cellulitis with Special Reference to Hand and Arm, *Practitioner*, London, July, 1912.
Cramp, W. C.: New Retractive Drain in Treatment of Small Infected Wounds About the Hand, *Surg., Gynec. and Obst.*, October, 1912.

ANTACID PROPERTIES OF INSOLUBLE BISMUTH SALTS

To the Editor:—I have seen it stated that insoluble bismuth salts act as antacids. Has actual trial been made to determine whether this would occur under conditions similar to those of the alimentary canal?

S. T.

Answer.—To answer this query a 50 c.c. portion of approximately 0.2 per cent. hydrochloric acid solution was mixed with 1 gm. of bismuth subcarbonate, and another with bismuth subnitrate. Both were shaken occasionally for an hour. Titration at the end of this time showed that the subcarbonate had neutralized about half of the acid, and the subnitrate only about one-tenth. The subcarbonate may therefore be considered a fair, though slowly acting, antacid, but the subnitrate has practically no effect on acidity.

POSTGRADUATE STUDY ABROAD

Many physicians are asking from week to week for information regarding graduate study in the various medical centers of Europe. We discussed this subject at length April 8, 1911, in an article which has been of service to an immense number of physicians. During the subsequent period we have occasionally added information on the subject, and we now gather all this material in a new article. The portions referring to the various cities abroad have been prepared by The Journal's representatives in those cities. The length of this article has caused us to omit about half of it from The Journal. The omitted portions include details as to cost of courses and of living and references to various additional sources of information. We reprint it in full in pamphlet form, a copy of which will be sent to any one on receipt of 10 cents.

We caution our readers that the space here devoted to the subject does not indicate that the opportunities for study abroad are always or even generally superior to those in this country. In gynecology and general surgery, for instance, we believe that the advantages afforded by American clinics are far less expensive than those abroad and more valuable as well. That, however, is another story. The present article is to aid those who have decided to go abroad.

Although some foreign teachers speak English fluently and even conduct classes in that language, it is not, as a rule, well to go to Vienna, Berlin, Düsseldorf or any other German-speaking center without a serviceable knowledge of German, or to Paris without an equally good knowledge of French. It is likewise important that before setting out the physician should have a clear idea of what he wishes to obtain and where he should go for it. As we have remarked before, unless he seeks merely the prestige of having studied abroad, what he brings back from foreign study is in direct proportion to what he took abroad with him.

Information in regard to the opportunities for postgraduate study in various parts of the world may be obtained from the Medical Inquiry Office at the Kaiserin Friedrich-Haus, Berlin NW 6, Luisenplatz 2-4. Further information is easily obtained after a physician arrives at his destination, as there are information bureaus in the different cities. A list of members of the Continental Anglo-American Medical Society may be obtained from the honorary secretary and treasurer, Dr. Robert Turner, 42 Rue de Villejust, Paris. This society was organized to serve as a bond of union between British and American practitioners established on the Continent and in Northern Africa, and will afford an opportunity to meet English-speaking confrères. A reference book and guide which physicians intending to go abroad, particularly to Germany, will find useful to consult is J. H. Honan's "Handbook to Medical Europe," published by P. Blakiston's Son & Co., price $1.50.

Some of the smaller university cities abroad offer excellent opportunities for laboratory work, but for clinical instruction, which is what the American physician going abroad for postgraduate work usually desires, the best opportunities are found in the larger medical centers, and Vienna, Munich, Berlin, Paris and London are the cities usually selected. Vienna in particular has long provided exceptionally well-arranged facilities for brief postgraduate courses, some in English, and many arranged with special reference to the needs of American visitors.

LONDON

Postgraduate teaching in London has one fundamental difficulty. The enormous wealth of clinical material is scattered and divided among a large number of independent medical schools and hospitals. There are twelve large general hospitals which are also medical schools with a complete staff of lecturers, at which the whole medical curriculum is provided for medical students. There are also about the same number of general hospitals which have not a medical school for students attached to them, and a great number of special hospitals—seven for diseases of the chest, eight for children, eight for women, five for diseases of the eye, five for diseases of the ear, nose and throat, two for diseases of the rectum, one orthopedic, three for nervous diseases, four for diseases of the skin and one for venereal diseases. To the system of maintenance by voluntary subscriptions is due the multiplication of institutions independently doing the same work. The centralization due to government control, which exists on the Continent, is wanting. Excepting the National Hospital for the Paralyzed and Epileptic, Queen Square, Bloomsbury, W. C., which may be described as the home of British neurology, and the Royal London Ophthalmic Hospital (formerly Moorfield's Eye Hospital), City Road, E. C., there are no institutions which stand out preeminently as the national center for the teaching of some particular subject; the honor is divided among a number.

Until recently all the systematic teaching provided in London was for medical undergraduate students. Physicians from home or abroad wishing to improve their knowledge simply attended the hospitals in an informal manner, perhaps bringing a letter of introduction to some distinguished teacher. In 1898 the London Post-Graduate Association was founded with the object of encouraging postgraduate study by organizing courses at some of the hospitals. Cards are issued to physicians (British, colonial and foreign) which admit them to clinical instruction in the wards and outpatient rooms and to attendance at operations and necropsies. They do not entitle the holders to attendance at certain tutorial classes or to certificates of attendance for the purpose of any examination.

The academic year is divided into three sessions of three months each: from January to March, May to July, and October to December. The cards are issued at the following rates: valid for three months, $50; for six months, $75; for any longer period at a further rate of $45 for each additional six months. Holders of cards may obtain extension of their original term by paying the difference at any time before the original term has expired. The cards are issued on personal application between the hours of 10:30 and 1 (except Saturday) at the office of the association, 20 Hanover Square, London, W. Evidence of qualification will be required.

A general time-table of the arrangements at the different hospitals and schools is furnished with the cards. A list of operations, clinical lectures and other arrangements can be had daily at the secretary's office. The arrangements offer the graduate student a large selection of teaching. On every one of the six days of the week he has the choice of a dozen clinics in medicine at Charing Cross, Guy's, King's College, St. George's, St. Mary's, St. Thomas', University College and the Westminster Hospital. In addition he has a selection from clinics devoted to such special subjects as tropical medicine, electricity, Roentgen rays, physical exercises and vaccine treatment. In surgery and also in diseases of women, of children, and of the eye he has a similar daily choice. In diseases of the ear, nose and throat and of the nervous system he has daily choice of three or four clinics. As some clinics begin in the morning and others in the afternoon two can be attended on one day. The ticket also admits to the Polyclinic. There are three clinics each week devoted to the genito-urinary system, and a number of clinical lectures and demonstrations. In connection with the course there are also special postgraduate classes on physiologic psychology, psychiatry, anatomy and physiology of the nervous system, clinical neurology, neuropathology, anesthetics, clinical examination and other subjects for which special fees are charged.

PARIS

Paris is said to excel in dermatologic, neurologic and genito-urinary work. For work in bacteriology it offers the unequaled facilities of the Institut Pasteur.

Access to Hospitals and Clinics

In Paris there is no special official organization for medical postgraduate instruction, but any physician, foreign as well as French, may, without the payment of any fee, follow any theoretical course given in the Faculté de médecine or any of the clinical courses held in the hospitals or clinics. Information in regard to courses at the Faculté de médecine is given in notices posted at the entrance; or one may apply at the office of the secretary, which is open daily from 12 till 3. The physician should first introduce himself at the offices of the Assistance Publique, 3 Avenue Victoria. He will receive gratuitously a *carte d'entrée des hôpitaux*, which carries a formal request to the various directors of hospitals, etc., to assist the visitor with information and facilities; it also contains a list of all the hospitals under the jurisdiction of the Assistance Publique. In order to be admitted to the clinical lectures, ward visits and examination of patients, the physician has only to present his card to the concierge of the hospital and to ask by name for the physician or surgeon whom he wishes to see.

Various Centers of Instruction

A physician who desires to take a practical course and to have the privilege of the library of the Faculté de médecine pays a matriculation fee of about $6 (30 francs), and in addition a fee for each practical course taken up, which is on the average about $10 (50 francs).

In various hospitals, clinics and laboratories there are *cours de perfectionnement* organized at various times of the year, especially during vacation. These are announced by placards posted in the buildings of the Faculté de médecine and the various hospitals and by notices in the medical journals. The fees are variable, but rarely exceed $10 or $20. Two complete courses in dermatology and venereal diseases of a hundred lessons each (two lessons each day) are given at the hôpital Saint-Louis, the first in May, June and July, the second in October, November and December. The fee is $30 (150 francs). These courses cover particularly diagnosis and treatment. At all demonstrations are presented patients, moulages from the hôpital Saint-Louis museum, and microbiologic and histologic specimens. Different therapeutic methods are applied in the presence of the students.

Information Bureau, Etc.

A free information bureau for physicians and others, officially known as the Bureau de Renseignements Scientifiques, is maintained at the Sorbonne. It is open all the year round from 10 to 12 and from 2 to 5, with attendants able to speak German, English, Russian and Spanish, and catalogued information of all subjects of interest to persons intending to pursue scientific study.

BERLIN

Medical courses at Berlin are divided into: (1) the regular university courses, which are intended for the undergraduate students; (2) vacation courses given by the university instructors during March and October, and (3) monthly courses by private instructors, which are given the year round. These are mostly policlinic or dispensary courses and correspond closely to the instruction given in graduate schools in the United States.

Regular student courses at the University of Berlin are often designed more for undergraduate than for postgraduate work. An occasional visit to these courses is welcomed without formality. To attend regularly one must sometimes matriculate. The university work is divided into a winter and a summer semester, the winter semester lasting from

October 15 to March 15 and the summer semester from April 15 to August 15. The time for matriculation is comprised in the two weeks preceding the opening of the semester and the first two weeks of the semester. The matriculation fee is 18 marks; diploma and passport must be shown. Vacation courses are given twice a year (March and October) during the university holidays. These courses are for graduates in medicine and can be highly recommended, but are sometimes overcrowded. Most of these courses begin on the first day or during the first week of the month and last for four weeks. Assistantships or so-called "voluntary" assistantships are often obtainable in outpatient departments and inside the hospitals. The requirements of such positions may best be obtained from the older men in the Anglo-American Medical Association or members of its orientation committee.

Anglo-American Medical Association

The Anglo-American Medical Association of Berlin was formed to promote the interests of British and American physicians studying in that city. The headquarters of the association are at the Hotel Atlas, Friedrichstrasse 105, where an information clerk is in attendance from 9 to 10 a. m. The membership fee is 10 marks (about $2.50) a year. The yearbook of the association will be sent by the secretary on receipt of 5 cents in foreign exchange stamp coupons. It contains courses most frequently attended by Americans, but does not pretend to be a complete list of all courses given in Berlin.

It is imperative that American citizens bring with them passports. They must register in the consulate when arriving in Berlin. If possible it is best to reach Berlin about the twentieth of the month. According to information furnished by the Anglo-American Medical Association, at least one week should be spent in personal examination of the opportunities for study and in getting settled before beginning work.

VIENNA

Vienna presents many advantages from the medical student's point of view, one of which is the great amount and variety of the clinical material, since patients come to Vienna from territory within a large radius. Another advantage is the centralization of facilities for instruction, which makes it possible for the student to economize his time.

Hospitals and Clinics

There are ten large public hospitals, the chief of which, the Allgemeines Krankenhaus, comprises three clinics each of surgery and medicine, two clinics each for gynecology, dermatology and syphilis, ophthalmology, mental and nervous diseases, and one each for otology, rhinolaryngology and pediatrics. The majority of the teachers not only speak English fluently but give lectures in English in special classes. Within the last few years a magnificent new hospital has been erected a few hundred feet away from the old Allgemeines Krankenhaus, which is to be pulled down. It contains only clinical wards for clinical teaching by ordinary professors. It is lavishly equipped in the most modern and scientific manner and will, when finished, contain 2,600 beds. At present the clinics for gynecology, obstetrics, rhinolaryngology, internal diseases and pediatrics are located there. Besides this general hospital there are the Wiedner Hospital, the Rudolph Hospital and the Poliklinik, connected with the medical department of the university, in which clinical lectures are given also by professors during the semesters, and some smaller hospitals in which specialist classes and practical work may be obtained. The winter semester lasts from October till March 31, the summer semester from May 15 to July 15. The fees for clinical semester lectures are low, about $6 being the maximum, while special lectures are more expensive. A good opportunity for anatomic and dissecting work is offered in the Anatomisches Institut, and for pathologic anatomy and bacteriology in the Pathologisch-Anatomisches Institut. In these official institutes the fees for working and material come to something like $10 to $15 per term of eight weeks. There is also a well-equipped institute for the study of physiology, and one for histology of the nerves. A modern institute for experimental pathology and therapeutic research was opened three years ago. All the institutions mentioned above are in the same quarter or district of Vienna, called Alsergrund, and are conveniently near each other.

Those who wish to spend considerable time in the wards do not find it difficult to obtain the position of *Hospitant* in the wards, where they have the same rights as ordinary hospital officers, but not their duties; they, of course, receive no pay.

Special mention must be made of the dietetic kitchen in the wards of von Noorden's clinic in the new hospital. This is one of the few places in the world where the special requirements of the diet for disturbances of metabolism, its preparing, its caloric value and its contra-indications can be learned by the students in the kitchen itself. Thirty beds are supplied from this kitchen with special kinds of food, as required by the individual cases. Foreign physicians are admitted to the clinic as soon as there is any vacant place.

Those men who desire to get more work in a specialty (eye, ear, nose, throat, urology) have the opportunity of obtaining "working places" in one of the numerous ambulatories of the Krankenkassen or sick clubs, or in the Mariahilfer Ambulatorium or Poliklinik. The "working-place" of Hajek's department (nose and throat) is well known, as are those also in the department of Zuckerkandl (urology), and in Alexander's ear department. It is advisable to obtain information as to vacant places, for there are generally several applicants awaiting their turn. These places cost on an average about $20 a month.

Centers of Information

The American Medical Association of Vienna, Schlösselgasse 28, Vienna VIII, will be glad to assist any newcomer and to give information on study or other subjects. An orientation committee for such purposes is one of the features of the American Medical Association of Vienna.

A bureau of information for medical courses is maintained in the Allgemeines Krankenhaus, First Court, head offices (Direktion), first floor, room 14, where information can be obtained on personal or written application.

LITERATURE ON STUDY ABROAD AND AIDS ON FOREIGN LANGUAGE

Those who intend to study on the Continent will find it extremely valuable to have command of French or German, according as they mean to go to France or to Germany or Austria. While a working knowledge of a foreign language cannot be obtained without practice in speaking and hearing it, the following manuals may be recommended to those who wish to strengthen the medical side of their vocabularies: The "Medical Vademecum in English and German" by B. Lewis, 1910, sold by P. Blakiston's Son & Co., 1012 Walnut Street, Philadelphia, for $5, is an ideal means of obtaining a working knowledge of German without the necessity for a dictionary; the postgraduate lectures and talks are given in English and in German on opposite pages. Special attention is given to the conversations needed in conducting the examination of a patient in various pathologic conditions. The sixty lectures are on various subjects and are authentic clinical lectures. "Self-Taught French" by F. Thimm, and similar pamphlets for German, Spanish and Italian, are published by Dick & Fitzgerald, 18 Ann Street, New York, price 25 cents, and are useful for general conversation. "Medical German," by Deutsch, price $1.75, contains conversations with patients in German and English. A volume of German-English medical dialogues, with dictionary and grammar, by Robert Lewin, is published by Dr. Werner Klinkhardt, Leipsic. P. Blaschke's English-German "Medizinisches Konversationsbuch," published by the Verlag von Walther Rothschild, Berlin, is sold in this country for $1.20. Another work of this kind, "Englisch für Mediziner," about the same price, is published by the Verlag von J. A. Barth, Leipsic. "Terminologia Medica Polyglotta," by Theodore Maxwell (London, J. and A. Churchill, price $3), gives synonyms in seven languages. Foster's Medical Dictionary, in eight volumes, published by D. Appleton & Co., New York, price $10, gives medical terms in English, French, German, Latin and Greek. The National Medical Dictionary, in two volumes, edited by Dr. J. S. Billings, published by Lea & Febiger, Philadelphia, 1890, price $14, includes English, French, German, Italian and Latin medical terms in a single alphabetical arrangement.

Following is a list of articles and letters which should prove of interest.

Hall, J. N.: Postgraduate Work in Vienna, THE JOURNAL, Dec. 7, 1907, p. 1932.

Osler, William: Vienna After Thirty-Four Years, THE JOURNAL, May 9, 1908, p. 1523; Impressions of Paris, THE JOURNAL, Feb 27, 1909, p. 701; March 6, 1909, p. 771.

Davis, A. Edward: Postgraduate Medical Instruction in Vienna, *Jour. Ophth. and Oto-Laryngol.*, April, 1909, p. 127.

Mannheimer, G.: Postgraduate Study in Europe, *Med. Rec.*, May 8, 1909.

Dewey, Richard: Psychiatry in Munich, THE JOURNAL, Jan. 1, 1910, p. 65.

Macy, Mary S.: Postgraduate Medical Work for Women in Europe, *Woman's Med. Jour.*, March, 1910, p. 59.

Kast, L.: The International Committee for Postgraduate Medical Education, *Post-Graduate*, June, 1910, p. 632.

Slocum, George: The American Medical Student in Vienna, *Phys. and Surg.*, July, 1910, p. 262.

Richardson, F. H.: Postgraduate Study of Pediatrics in Vienna, THE JOURNAL, Oct. 8, 1910, p. 1303.

Kutner, R.: Postgraduate Medical Instruction, Its Present Status and Future Objects, *Post-Graduate*, March, 1910.

McMorrow, F.: Postgraduate Work for Americans at Budapest, The Journal, July 29, 1911, p. 407; Postgraduate Work in Vienna and Budapest, *New York Med. Jour.*, March 30, 1912.

Paling, Albert: A Long Vacation, *West Canada Med. Jour.*, November, 1911.

Leavitt, F.: Rambles Through Hospitals Abroad, *St. Paul Med. Jour.*, October, 1911.

Cole, G. L.: European Observations, *South California Pract.*, February, 1912.

Beck, Carl: Surgery of To-Day in Germany, Austria and France, *Surg., Gynec. and Obst.*, March, 1912.

Else, Earl: Vienna as a Clinical Center, *Northwest Med.*, February, 1913, p. 44.

Stillson, J. O.: Some of the Clinics of Europe, *Jour. Indiana State Med. Assn.*, February, 1913, p. 60. This article contains a calendar of clinics in London, and gives the prices for attendance at some of the courses.

Medical Economics

This Department Embodies the Subjects of Postgraduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

MEDICOLEGAL RELATIONS OF PHYSICIAN AND PATIENT

A physician cannot attend a patient and at the same time evade any legal responsibility thereby entailed. Taking this as his text, Dr. W. C. Woodward (*The Surgical Clinics of J. B. Murphy*, February, 1913), sets forth the medicolegal relations of physician and patient. He says that a physician may evade the responsibilities of general practice. He may decline to take a case of obstetrics or may limit his work to surgery and decline to take medical cases, but when he does attend a patient he cannot evade the legal responsibility incident to such attendance. The relations of physician and patient are not to any large extent determined by statutes, but by the common law as interpreted in a long line of court decisions. A physician may refuse to treat any person, and even though the person be injured by such refusal, he incurs no legal liability, although it may be morally and ethically his duty to attend such person. His only punishment would be public censure and the pangs of his own conscience.

An infant or lunatic, a prisoner, or men in the Army and Navy are served by officially appointed physicians with or without their consent, or a person who becomes unconscious in the street may be attended by a physician without his consent. Aside from these few instances, the relationship between patient and physician is a voluntary and contractual one. In the case of a dispensary patient or a person treated by a corporation doctor, the absence of any direct contractual relation would not absolve the physician from responsibility. The contract may be written or oral, expressed in words, or implied from circumstances. In regard to the latter the law as interpreted by the courts would decide whether or not there was a contract. The quack who gives a written contract that no money will be demanded if a cure is not made usually has some clause in the contract which serves as a loop hole through which he may escape liability. A physician can lawfully contract with his patient to cure him or make no charge, but this form of contract is subject to limitations. He cannot lawfully contract to do an unlawful act such as to commit a murder, do a criminal abortion or unduly influence a person making a will. Nor can he by express agreement relieve himself from liability for damages on account of lack of ordinary knowledge or skill.

A physician engaged to attend a patient continues as long as the patient needs attention. If he desires to quit, he must give the patient definite notice and must then continue until another physician can be obtained or until the attendance is terminated by request or permission of the patient. Death or recovery will, of course, terminate a physician's obligation in this respect. In cases in which recovery is impossible but the patient continues to live for a long time and the physician's services are of no particular medical value, the obligation of the patient to pay the physician for continued services must be fixed by an express agreement, but if continued attendance is desired the physician has a right to collect his fees. A contract between physician and patient implies mutual obligations. The patient must give the physician a fair history of the case. He must submit to any reasonable examination and must follow all necessary instructions, and he must pay a proper fee. The physician must treat the patient with due diligence and with ordinary knowledge and skill and use his best possible judgment in his conduct of the case. If the patient does not comply with a reasonable request for an examination, the patient alone is responsible for the consequences. This applies also to following the physician's instructions.

Ordinary knowledge and skill on the part of a physician are measured by the knowledge and skill of physicians at the same time in the same or similar localities. The physician need not, however, be as learned as the best physician in his community, but he cannot be as incompetent as the poorest. So long as he keeps at or above the average, he cannot be called on to respond in damages even though he may not cure the patient or may even do actual injury.

Examination requires consent on the part of the patient or of some one authorized to give consent for him. Such consent may be expressed or implied. If a patient does any act such as removing clothing at the request of the physician, consent to the examination is implied. The same is true of operations. In operations, however, the extent of the physician's rights must be understood more clearly. The physician can lawfully do only so much as has been agreed on, and full authority to use discretion as a surgeon should be obtained before the patient goes under the anesthetic. A physician employed to treat a patient for any injury or disease has no right to disclose any information to any corporation or to any party who is liable to be sued by the patient because of such injury or disease, unless the patient consents to such a disclosure. Whether a physician may be required to make such a disclosure in a court will be determined by the statutes and decisions in any particular jurisdiction. A physician, however, who is employed by a person or corporation liable to be sued, for the sole purpose of making an examination of the patient, may report to the person or corporation who employed him what the result of the examination was.

THE FEE-SPLITTING EVIL

The step which the American Medical Association is now taking in investigating the fee-splitting evil in the medical profession has been undertaken none too soon. This practice is the great corrupting element in the profession to-day; those practicing it have in many instances become little better than the newspaper advertising fakers, with their brokers out in the field dragging up the business for them. As it now is, the physician in the rural district or small town, practicing this custom, uses the commercial method of shipping to the highest bidder. The surgeon who is a true man of Christian character and with the highest type of surgical skill, who does not divide a fee, is forced to compete with many an unscrupulous surgeon, who may possess but very ordinary ability; but because he pays a liberal commission he gets the work, and what is still worse is doing a mutilating operation on healthy tissues, which I believe is not such a rare occurrence, and also that the percentage of patients sent to a surgeon who does not split a fee is small. I regard the man who sends the patient to a surgeon and accepts a part of the fee as a commission as more dishonorable than the surgeon, since the latter feels almost forced to do so. I have been much amused by hearing men who do the fee-splitting attempt to defend their course by explaining to our state society or other medical societies, that they always have it understood with the patient that they gave a part of the fee to the local physician. The shrewd fee-splitter does not try to explain it, as he knows there is too little truth in the above to be believed.—C. W. R., in the *Journal of the Kansas Medical Society*.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Arkansas: Regular, Little Rock, May 13-14. Sec., Dr. F. T. Murphy, Brinkley; Eclectic, Little Rock, May 13. Sec., Dr. C. E. Laws, Fort Smith.

Florida: Jacksonville, May 12-13. Sec., Dr. J. D. Fernandez.

Georgia: Regular, State Capitol, Atlanta, May 8-10. Sec., Dr. C. T. Nolan, Marietta; Homeopathic, Atlanta, May 8. Sec., Dr. R. E. Hinman, 106½ Whitehall Street.

Illinois: Armory Battery B, Chicago, April 29-May 1. Acting Secretary, Amos Sawyer, Springfield.

Louisiana: Homeopathic, 702 Macheca Bldg., New Orleans, May 5. Sec., Dr. Edward Harper.

Nevada: Carson City, May 5. Sec., Dr. S. L. Lee.

New Mexico: Santa Fe, April 14. Sec., Dr. W. E. Kaser, East Las Vegas.

West Virginia: Huntington, April 14. Sec., Dr. H. A. Barbee, Point Pleasant.

Kansas October Report

Dr. H. A. Dykes, secretary of the Kansas State Board of Medical Registration and Examination, reports the written examination held at Topeka, Oct. 15, 1912. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 12, of whom 11 passed and 1 failed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
University of Colorado	(1912)	75
Rush Medical College	(1912)	78, 82
College of Physicians and Surgeons, Chicago	(1912)	78
Northwestern University Medical School	(1905)	76
Kansas City Hahnemann Medical College	(1912)	77
University Medical College, Kansas City	(1912)	76, 80, 86
Jefferson Medical College	(1912)	76
Woman's Medical College of Pennsylvania	(1910)	91.5
FAILED		
Ensworth Medical College, St. Joseph	(1909)	51

Ohio October Reciprocity Report

Dr. George H. Matson, secretary of the Ohio State Medical Board, reports that at the meeting held Oct. 1, 1912, twenty-two candidates were licensed through reciprocity. The following colleges were represented:

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
College of P. and S., Chicago	(1910)	Illinois
Rush Medical College	(1911, 2)	Illinois
University of Louisville (1884) Indiana; (1910) West Virginia; (1911) Kentucky.		
University of Maryland	(1899)	W. Virginia
Univ. of Mich., Dept of Med. and Surg. (1911)	(1912, 3)	Michigan
University of Michigan, Homeopathic College	(1912)	Michigan
Michigan College of Medicine	(1883)	Michigan
Long Island College Hospital (1894) Vermont;	(1910)	New York
Cornell University Medical College	(1910)	New York
Eclectic Medical Institute, Cincinnati (1871) Indiana; (1912) Arkansas.		
Medical College of Ohio	(1906)	Kentucky
Medico-Chirurgical College of Philadelphia	(1906)	New York
Western Pennsylvania Medical College	(1899)	Penn.
University College of Medicine, Richmond	(1899)	W. Virginia

New Mexico January Report

Dr. W. E. Kaser, secretary of the New Mexico Board of Health and Medical Examiners, reports that at the meeting held at Santa Fe, Jan. 13-14, 1913, eleven candidates were licensed on presentation of satisfactory credentials. The following colleges were represented:

LICENSED ON PRESENTATION OF SATISFACTORY CREDENTIALS

College.	Year of Graduation.
University of Colorado	(1903) (1912)
Chicago College of Medicine and Surgery	(1908)
Kentucky School of Medicine	(1901)
Baltimore Medical College	(1897) (1898)
University Medical College, Kansas City	(1902)
St. Louis University	(1905)
Washington University, St. Louis	(1907)
University of Pennsylvania	(1898)
Vanderbilt University	(1901)

Ohio January Reciprocity Report

Dr. George H. Matson, secretary of the Ohio State Medical Board, reports that at the meeting held Jan. 7, 1913, twenty candidates were licensed through reciprocity. The following colleges were represented:

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Northwestern University Medical School	(1911)	Illinois
Illinois Medical College	(1902)	W. Virginia
University of Louisville	(1908)	W. Virginia
University of Maryland	(1902)	Maryland
Baltimore Medical College	(1910)	Maryland
College of Physicians and Surgeons, Baltimore (1896) Pennsylvania; (1911) Maryland.		
Detroit College of Medicine	(1908)	Michigan
Univ. of Mich., Dept. of Med. and Surg. (1911)	(1912)	Michigan
University of Michigan, Homeopathic College	(1911)	Michigan
St. Louis College of P. and S.	(1895)	Missouri
Jefferson Medical College (1874) Kansas; (1908) New York; (1910) West Virginia; (1906) (1911) Pennsylvania.		
Western Pennsylvania Medical College	(1908)	Penn.
University of Pennsylvania	(1912)	Penn.
University of Pittsburgh	(1911)	Penn.

Book Notices

Psychanalysis. Its Theories and Practical Application. By A. A. Brill, Ph.B., M.D., Chief of the Neurological Department of the Bronx Hospital and Dispensary. Cloth. Price, $3 net. Pp. 337. Philadelphia: W. B. Saunders Company, 1912.

To be able to write a book on psychanalysis, one must not only have studied and understood Freud, but must also have had personal experience with the method. The author has complied with these requirements. He has read and comprehended Freud, or he would have been unable to furnish translations of Freud's books. In the preface Dr. Brill tells us many things about himself, from all of which we learn that he has also practiced psychanalysis. The entire subject is covered in twelve chapters on the following topics: the psychoneuroses, dreams, the actual neuroses, the compulsion neuroses (obsessions, doubts, phobias), psychanalysis and the psychoses, psychologic mechanisms of paranoia, psychopathology of everyday life, hysteric fancies and dreamy states, the Oedipus complex, the only or favorite child in adult life, anal eroticism and character, and Freud's theory of wit. The substance of several of these chapters has already appeared in neurologic journals, but found an appropriate place in this volume. In previous reviews of Freudian books, the English translations of which had been made too literal by Dr. Brill, we excused this on the ground of the pupil showing great deference to his master. Now that the author is writing in his own name, we are under the painful necessity of remonstrating with him for not always utilizing idiomatic English. Aside from this criticism, the book is a credit to its author. Not only has he given us a splendid summary of Freud's writings which are scattered in many volumes and journals, but he has also contributed important observations of his own. Of the chapters showing much originality in thought we may favorably mention especially those on the psychopathology of everyday life, and the only or favorite child in adult life, the latter of which may even be considered brilliant. A feature for which the author is to be especially commended is the addition of a short bibliography at the end of each chapter. In conclusion, we believe this book to be the best one-volume exposition of Freudian doctrine that has been written for the non-specialist.

The Career of Dr. Weaver. By Mrs. Henry Backus. Cloth. Price, $1.25 net. Pp. 379 with illustrations. Boston: L. C. Page & Co., 1913.

This is not a problem or love story; it is a real medical novel. Of course there is a love story running through it; there has to be. But the love story is incidental and subordinate. So also civic politics, graft and the reform movement are brought in. But primarily it is about medical men and medical affairs. The Dr. Weaver of the title-rôle—the villain of the story—is a popular and successful surgeon. His villany is not of the ordinary kind; it is the kind that results from an attempt on the part of one who has gradually lost regard for the principles underlying medical ethics and practice to gratify personal and professional ambitions. Dr. Weaver has a free, public clinic which he uses to feed a private hospital. His practice (a specialty) is kept up by toadying to the rich, by fee-splitting, by advertising through sending to physicians reprints of medical articles his assistants have worked up, etc.

Dr. Jim, a younger brother, is the hero. He started practice in his native town, but against his better judgment was persuaded by his brother to come to the city and act as assistant. Dr. Jim does not like some of his brother's methods, does not hesitate to tell him so, and considers leaving. Nevertheless, he recognizes the awakening of his brother's conscience, and, when ruin threatens his brother, springs to the defense and skilfully averts disaster. It is the younger brother who represents the honorable, the ethical, the progressive physician. He is emphatic in his advocacy of the doctor going into politics, believing that the physician can do more good than any other individual in this way. Not the least pleasing part of the book is a chapter in which is given the reason why we should have a national Department of Health.

The book shows such a knowledge of medical affairs that the reader might suppose the author were a physician or a physician's wife, but she is not. The wife of a Cincinnati lawyer, the mother of three children, and a woman decidedly domestic in her tastes, she is the antithesis of a militant suffragette. She has literary ability also, for, while this is her first appearance as a novel-writer, there is little of the rawness so often found in the first venture.

Some physicians may think it unfortunate to have such a frank exposure of some of the evils which are afflicting the medical profession, but others will approve, feeling that the remedy for these evils can come only through publicity—not only to the profession but also to the public at large. On the whole, the book is fair, and physicians will read it with both pleasure and profit.

The Protein Element in Nutrition. By Major D. McCay, M.B., B.Ch., M.R.C.P., Professor of Physiology, Medical College, Calcutta. International Medical Monographs. Cloth. Price, $3 net. Pp. 216, with illustrations. New York: Longmans, Green & Co., 1912.

The author's object is to disprove Chittenden's contention that good health and efficiency can be maintained on a low protein diet. The evidence in disproof is derived from a careful study of diets in India and of the people there. The analyses of dietaries of various tribes and sects in India are given and discussed. The physical character of these people is also described and to some extent illustrated by pictures.

The first chapters make an excellent summary of the physiology of protein digestion, assimilation and elimination. Numerous and interesting original studies of protein assimilation and elimination of groups of natives of India are described in detail. The Bengali live constantly on a diet which is almost exactly that advocated by Chittenden. Most of the other inhabitants of India live on a more generous diet, especially one richer in protein. The author points out that the Bengali are physically a small, feeble race, lacking in muscular strength, nervous stamina and resistance to disease. In a word, physically they are inferior. McCay ascribes this to the lack of protein in their food, and minimizes the many other conditions which may help to produce these results. For instance, the Bengali begin to bear children in their teens. The average weight of the babies is a little over 5 pounds at birth. The mother's milk is small in quantity, and of inferior quality. When the infants are fed other things they are most injudiciously fed. These facts are brought out by the author, but little emphasis is placed on this bad start in life.

The old plea is made that, because 100 gm. or more of protein daily are demanded by all persons who can get it, this amount is necessary. Many new evidences of this and larger demands are pointed out by the author and the details of this information are most interesting. The author criticizes Chittenden's work for the inaccuracy of his methods, for suspected inaccuracy in collecting specimens from the men on whom he experimented, and dishonesty on the part of the men; that is, he suspected that they did not live on the prescribed diet alone. Those who know Chittenden, however, do not doubt the accuracy and honesty of his facts. Without being convinced that Chittenden is fully correct, we do not feel that the author of this book has proved his point. It is undoubtedly true that the Bengali are feeble, accomplish little work, live shorter lives, are more susceptible to diseases and succumb more easily than other natives of India, and the natives of other countries who have a more generous protein diet; but we are not convinced that all this is due only or chiefly to the diminished quantity of protein in their daily dietary. McCay believes that a low protein diet increases a person's susceptibility to diseases, but offers little evidence except the susceptibility of the Bengali to disease and the high mortality among them which certainly cannot justly be ascribed to diet alone.

We can commend this book to all students of dietetics because of the large amount of new information which is brought together in it, especially the studies of protein utilization by different races and groups of people in India and the analyses of their foods.

Internal Medicine. By David Bovaird, Jr., A.B., M.D., *Assistant Professor of Clinical Medicine in the College of Physicians and Surgeons of Columbia University.* Cloth. Price, $5. Pp. 618, with 116 illustrations. *Philadelphia: J. B. Lippincott Company, 1912.*

Treatises on internal medicine or the practice of medicine can be placed in three categories; the first is an encyclopedic compilation as full and complete as the author can make; the second is more or less complete but contains the experience of a great clinician; the third is written for the writer's students. Our author frankly says in his preface that some treatises he finds "too long, too rich in information for those entering on the study of medicine." He has therefore made a book between such as are brief categories of facts and those that are complete and encyclopedic. While we do not recognize the need of such a book, and while a practitioner cannot get from this book all the information he will want on the subjects treated, the writer has accomplished fairly well what he set out to do.

Treatment is described in a superficial way. For instance, what is said of the treatment of diabetes would remind one who knows the subject well of many points to be observed, but certainly would not lead a recent graduate to do all that he should for a patient. The treatment of chronic parenchymatous nephritis is described in thirteen lines, and the dietetic treatment of interstitial nephritis in five. Under the heading of chronic polyarthritis the author places cases of arthritis "for which no satisfactory explanation can at present be given." This includes what is generally called arthritis deformans. The author places beriberi among the infections, though he admits that no infective agent is known to produce it, and he ignores all the proofs which have been demonstrated by many observers that it is due to a fault in the food-supply, to the removal of some imperfectly known substance from rice and wheat by milling processes. The disease has been produced experimentally, and both animals and men having it have been cured by feeding them the necessary material contained in the whole grain. The literature of this subject has become large in the last five or six years and should not have been ignored. The book is well written and fairly accurate. It is also well illustrated. It can be criticized, however, because it is not sufficiently complete.

Principles of Economic Zoology. Part 1—Field and Laboratory Guide. By L. S. Daugherty, M.S., Ph.D., Professor of Zoology, State Normal School, Kirksville, Mo., and M. C. Daugherty. Cloth. Price, $1.25 net. Pp. 276. Philadelphia. W. B. Saunders Company, 1912.

This book is a guide for field and laboratory study of (not about) the animal, and will be appreciated by those who are interested in the subject. It consists of questions and outlines carrying out the idea that the only right method for scientific training is based on observation and deduction from that observation, to be verified later by study of the text. The seasonal arrangement is helpful, and the abundance of material gives opportunity for variety of work and for exercise of individuality on the part of teacher or student.

Abhandlungen aus dem Gebiete der Geburtshilfe und Gynaekologie. Mitteilungen aus der zweiten Frauenklinik der königl. ung. Universität zu Budapest. Herausgegeben von W. Tauffer, Direktor der Klinik. Vol. II, Part I. Price, 4 marks. Paper. Pp. 199. Berlin: S. Karger, 1912.

The high character of the scientific work in Tauffer's clinic which was revealed in the first volume is maintained in the first part of the second volume. Frigyesi, in "Klinik der Placenta praevia," analyzes exhaustively the 110 cases which have occurred in the clinic during the last twelve years since it has occupied the present large buildings. He emphasizes, for both prognosis and treatment, the importance of determining the grade of the praevia. He urges the danger of the tamponade, to which he prefers colpeurysis. In partial placenta praevia with good pains he prefers rupture of the membranes. If this is ineffectual, and in cases of total praevia, he advises intra-amnial hysteurysis in clinics, and combined version with tamponade with the child's body in general practice. The Momburg compression should be ready for the third stage in all cases, and in women who have lost much blood it should be applied immediately after birth. The Duehrssen tamponade should be applied early.

Mansfeld in a short paper, "Schwangerschaft und Pyelitiden und ihre Behandlung," describes twenty-six cases, and concludes in regard to treatment that during pregnancy retention in the renal pelvis should be overcome, while during labor and the puerperium the treatment should be as expectant as possible.

Scipiades in "Die Vorbereitung der Bauchwand zu gynäkologischen Laparotomien" advocates the acetone-alcohol-iodin preparation in preference to the Fuerbringer method.

Frigyesi describes "Die Anwendung der Momburgschen Blutleere in der Geburtshülfe," which has been employed in the obstetric clinic in twenty-five cases.

Mansfeld in "Inversio Uteri bei Hypoplasie des Adrenalsystems" describes a fatal case in which he attributes the extreme atony of the uterus which led to the inversion to hypoplasia of the adrenal system and the consequent atony of the sympathetic.

Scipiades begins the discussion of "Myom und der Schwangerschaft" by considering in this first part of the volume the relation between myoma sterility and pregnancy based on 985 myoma cases, of which sixty-five were complicated with pregnancy.

The Practice of Dentistry. A Practical Treatise on the General Practice of Dentistry, Operative and Prosthetic. Exclusive of Orthodontic Practice. By Leo Greenbaum, M.D., D.D.S., and Max Greenbaum, D.D.S. Cloth. Price, $6. Pp. 836, with 350 illustrations. New York: D. Appleton & Co., 1912.

This book, while taking up briefly the practical aspects of operative and prosthetic dentistry, is admirable on account of the way in which it discusses the most recent theories and opinions in the literature of dentistry. It is really surprising to find how much of such discussion is contained in the book, and toward these opinions and theories the authors maintain a judicial attitude which is gratifying. For physicians perhaps the most interesting chapter in the book would be the one on oral hygiene and its connection with the general diseases of the body.

The Practitioner's Encyclopedia of Medicine and Surgery in All Their Branches. Edited by J. Keogh Murphy, M.C., F.R.C.S., Surgeon, Miller General Hospital for South-East London. Cloth. Price, $7. Pp. 1423, with illustrations. New York: Oxford University Press, 1912.

This work is designed to supply the need of a compact, practical encyclopedia, so that the busy practitioner can within a single volume at once find reliable information on all subjects with which he may be called to deal in his daily work. The object of the work appears to be fairly well accomplished in consideration of the space allowed.

A Treatise on Diseases of the Hair. By George Thomas Jackson, M.D., and Charles Wood McMurtry, M.D. Cloth. Price, $3.75 net. Pp. 366. Philadelphia: Lea & Febiger.

In the notice of the above book, March 29, page 1020, the name of the publishers was omitted.

Medicolegal

Law Violated by Chiropractor—What Constitutes Practice—Admissibility of Evidence—Result of Treatment Immaterial

(Swarts vs. Siveny (R. I.), 85 Atl. R. 33)

The Supreme Court of Rhode Island overrules the defendant's exceptions to a conviction on a charge of holding himself out as a practitioner of medicine, in violation of Section 8 of Chapter 193 of the general laws of Rhode Island, without having a license from the State Board of Health, the case being remitted to the superior court for sentence. At the time of the trial he was 52 years of age; had in his boyhood attended a grammar school, which he left at the age of 13 or 14 years, and he thought that he had attended for two terms some institute, the name or location of which he did not disclose. Thereafter he had carried on the business of a mason and been employed as a bricklayer. At the age of 44 he attended for three or four months a school of chiropractics.

The court says that the necessity for some legislation designed to regulate the practice of medicine and surgery has been very generally recognized. Legislatures in many of the states have enacted laws looking to the protection of the public from unscrupulous persons, or persons of insufficient education or acquirement, who might seek to treat disease and bodily ailments. Under the laws of Rhode Island any person desiring to practice medicine therein must first observe certain regulations regarding registration, must present satisfactory evidence of fitness to practice and pass such examination as the State Board of Health may require. Then, if the State Board of Health is satisfied that the attainments of the applicant are such as would warrant it, a certificate will be issued by said board authorizing him to practice medicine. Without such certificate no one is authorized to practice medicine in the state.

The word "chiropractic" or "chiropractor," according to the defendant, is coined from two Greek words, "chiro" and "practicas," signifying something done with the hands. The defendant in his testimony made use of the words "cure" and "cured" two or three times, apparently in a moment of forgetfulness; but on the whole he seemed studiously to avoid the use of those words, evidently under the impression that any attempt to cure disease would bring him within the practice of medicine. He further undertook to exclude himself from the practice of medicine by showing that he did not take the pulse or ascertain the temperature of the patient, did not administer drugs, and did not otherwise employ the means usually resorted to by physicians in aid of their diagnosis. He claimed that the chiropractic idea was not to cure the disease, but to remove the cause, and thus allow or bring about a recovery therefrom; a distinction which the court finds some difficulty in appreciating.

The practice of medicine does not wholly depend on the administration of drugs. It is a matter of common knowledge that the use of drugs by physicians of medicine has materially decreased, especially during the last twenty years or more, and that not infrequently the medical practitioner limits his efforts to cure or alleviate disease to the regulation of diet and exercise, or to prescribing some change of scene, climate, or environment, reaching a conclusion as to the needs of his patient after learning his physical condition through a proper diagnosis, in which he is materially aided by his knowledge of disease, its origin, its anatomic and physiologic features, and its causative relations.

The court thinks that the defendant was guilty of practicing medicine within the terms of the statute, the phrase "practice of medicine" to be taken in its ordinary acceptation and popular meaning. He undertook by a certain system or method of treatment to cure or alleviate disease or pain. His intentions so to do were clearly evidenced by the testimony of witnesses and the literature which he had adopted and distributed in the advertisement of his business, and he had exacted a certain compensation for each treatment or group of treatments. If it be assumed that the method or system practiced by the defendant was of any value, it must also be assumed that some knowledge of disease, its origin, its anatomic and physiologic features, and its causative relations must be employed to locate and determine its nature, unless the defendant would have the court believe that all the ills to which flesh is heir proceed from the impingement of nerves between the sectional vertebrae of the spine, and that whenever one or more displaced sections are brought into proper alignment the disease will disappear without the need of any determination on the part of the chiropractor as to the location of the affected part or the nature of the ailment. This view of the matter the court is not prepared to accept.

The complaint charged that the defendant "did open an office with intent to practice medicine, and did hold himself out to the public as a practitioner of medicine by appending to his name the title of 'Chiropractor' and by representing that he was versed in and willing to practice for compensation the art of preventing, curing, and alleviating disease and pain." His attempt to divide the charge in the complaint into a series of separate charges, and then to individualize them in his argument, does not seem to the court to be warranted or to serve any useful purpose.

The defendant asked Dr. Swarts, the complainant, secretary of the State Board of Health, if he issued the complaint on the strength, alone, of the word "Chiropractor." This was objected to, and the court thinks properly excluded. It was immaterial. The complaint spoke for itself, and the mental attitude of Dr. Swarts in making the complaint was in no way important.

The defendant also interrogated some of the witnesses with a view to showing the benefits resulting to some of the parties who had been treated by the defendant, and that in some cases he had succeeded in alleviating their troubles after regular doctors of medicine had made the attempt and failed. These questions were objected to, and the court thinks properly ruled out as immaterial. The result of the defendant's treatment was of no consequence in this inquiry. The purport of the complaint was that the defendant had been practicing medicine without authority. The result of such practice to the patient, if shown, could not have aided the jury in determining the question submitted to them.

But it was not error to permit the introduction in evidence of certain books and pamphlets, relating to chiropractic schools and methods, to which the defendant had referred with approval in his testimony.

A request for an instruction of the jury that, "If the jury find that a chiropractic is not a practitioner of medicine and surgery, then your verdict should be for the defendant," was rightly refused. The question for the jury was not thus limited. The real question was the *broader one*, as to whether the defendant, under all the evidence in the case, had been guilty of practicing medicine without authority.

Holder of Certificate Failing to Have It Recorded

(Wilson vs. State (Okla.), 129 Pac. R. 82)

The Criminal Court of Appeals of Oklahoma reverses a conviction of Wilson of practicing medicine in Woodward County without having at the time a valid and unrevoked certificate from the state board of medical examiners of the state of Oklahoma, because of error in the exclusion of a certificate which he held, which, the court says, should have been admitted in evidence, and which, when admitted, would have been a complete defense by the accused to the charge contained in the information. The court holds that a person who has been regularly licensed to practice medicine in Oklahoma, and who has failed to record the certificate, issued to him by the board having jurisdiction to issue licenses under the laws of the state, in the county in which he resides and maintains a place of business, cannot be convicted under section 4256 of the Compiled Laws of 1909 for practicing medicine without a license, but is subject to prosecution under section 4252, for failure to record his license in said county. A certificate to practice medicine in Oklahoma issued by the state board having jurisdiction to issue same, properly authenticated and under the seal of said board, is entitled to be received in evidence when tendered on behalf of a person who is on trial charged with practicing medicine without authority, and such certificate when bona fide is a complete defense to a prosecution based on section 4256. Had the accused been prosecuted *under section 4252 of the statute*, and had a conviction resulted, no relief could have been had in this court on the ground set out in the petition in error.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, MINNEAPOLIS, JUNE 17-20

Alabama State Medical Association, Mobile, April 15-18.
Amer. Assn. of Genito-Urinary Surgeons, Washington, May 6-7.
Am. Assn. of Pathologists and *Bacteriologists, Washington*, May 6-8.
American Climatological Association, Washington, May 6-7.
American Dermatological Association, Washington, May 6-8.
American Gastro-Enterological Association, Washington, May 5-6.
American Gynecological Society, Washington, May 6-8.
American Laryngological Association, Washington, May 5-7.
American Laryn., Rhin. and Otol. Society, Washington, May 8-10.
American Neurological Association, Washington, May 5-7.
American Ophthalmological Society, Washington, May 6-7.
American Orthopedic Association, Washington, May 6-8.
American Otological Society, Washington, May 6-7.
American Pediatric Society, Washington, May 5-7.
American Society of Tropical Medicine, Washington, May 6-8.
American Surgical Association, Washington, May 6-8.
American Therapeutic Society, Washington, May 5-6.
American Urological Association, Boston, April 15-17.
Arizona Medical Association, Globe, May 20.
Arkansas Medical Society, Little Rock, May 20-23.
Association of American Physicians, Washington, May 6-7.
California State Medical Society, Oakland, April 15-17.
Congress Am. Phys. and Surg. of N. America, Washington, May 6-7.
Connecticut State Medical Society, Hartford, May 21-22.
Florida Medical Association, Miami, May 13-15.
Georgia State Medical Association, Savannah, April 16-18.
Illinois State Medical Society, Peoria, May 20-22.
Iowa State Medical Society, Des Moines, May 7-9.
Kansas Medical Society, Topeka, May 7-8.
Louisiana State Medical Society, Baton Rouge, April 22-24.
Maryland Medical and Chirurgical Faculty, Baltimore, April 22-24.
Missouri State Medical Association, St. Louis, May 13-15.
Montana State Medical Association, Great Falls, May 14.
Nat. Assn. for Study and Prev. of Tuberculosis, Washington, May 8-9.
Nebraska State Medical Association, Omaha, May 13-15.
New Hampshire Medical Society, Concord, May 13.
New York State Medical Society, Rochester, April 29-May 1.
North Dakota State Medical Association, Minot, May 7-8.
Oklahoma State Medical Association, Enid, May 13-15.
South Carolina State Medical Association, Rock Hill, April 15-17.
Texas State Medical Association, San Antonio, May 6-8.
West Virginia State Medical Association, Charleston, May 21-23.

NEW YORK ACADEMY OF MEDICINE

Meeting held March 6, 1913

The Second Vice-President, DR. W. B. JAMES, in the Chair

Devices for Artificial Respiration

DR. SAMUEL J. MELTZER: *Much progress has recently been* made in dealing with temporary failures in respiration. In my opinion the Sylvester method is more satisfactory than that of Schäfer, but I suspect that there is a fairly large proportion of medical men who are unprepared to use either of these methods efficiently. By neither of these methods can the respiration be kept going for hours, and hence a search has been made for more efficient devices for maintaining artificial respiration. As a member of the committee appointed by the Bureau of Mines to investigate such devices I am not at liberty to express my opinion as to their actual value more than to say that the invention of other devices has not yet been made superfluous by the existence of those already on the market.

My method of pharyngeal insufflation gave satisfactory results with animals, but when tested on dead human bodies was found to permit the escape of air through the nose and mouth, and this could not be prevented in the same easy manner in which it had been accomplished in animals. In endeavoring to adapt this method to the requirements of the human anatomy I have made studies in carrying on the respiration by means of a well-fitting face-mask. In both of these methods a heavy weight should be placed on the abdomen and reinforced by the application of tight bandages in order to prevent the entrance of the accumulated air into the gastro-intestinal tract. This restriction of abdominal respiration causes the blood to be driven from the paralyzed blood-vessels of the splanchnic region into the heart and medulla oblongata where it is most needed. The external arrangement for an efficient rhythmic and safe control of the respiration in both methods consists of a source for gas or air-pressure, of a valve regulating the rhythm of respiration and of a safety-valve. The two methods are differentiated by the fact that in the pharyngeal method the pharyngeal tube is of fairly large transverse diameter and capable of filling out the entrance into the pharynx so that the insufflated air cannot escape back through the mouth so readily. The pharyngeal end of the tube is cut off slantingly so that when inserted into the pharynx the end of the lower wall remains anterior to the opening of the larynx, while the upper wall extends to the posterior wall of the pharynx, raising the soft palate and the uvula so as to shut off the pharynx from the nasal cavity. When this apparatus is used the tongue is pulled well out of the mouth, the mouth opened wide, and the pharyngeal tube inserted as far as it will go. The pharyngeal tube is then connected with the bellows or oxygen tank. The air or oxygen is then turned on, a person grasps the respiratory valve and turns the ring from side to side every three or four seconds, thus keeping up an efficient respiration. A tightly fitting mask, with a nozzle for connection with the blowing apparatus, tightly attached to the head will do efficient service instead of the pharyngeal tube. The Schäfer method can easily be combined with either of these methods.

Protein Assimilation

DR. DONALD D. VAN SLYKE: Our problem is that of tracing the proteins of the food from the alimentary canal through the blood-stream into the tissues, and there ascertaining their final fate. The confusion and controversy which have resulted from the attempts to solve this problem seem to be due to the failure to apply methods which are sufficiently accurate and sensitive to determine whether amino-acids and proteins are or are not present in the blood, and whether or not they pass into it from the alimentary tract during digestion. We have developed a method which may solve the problem. When amino-acids are brought into a solution of nitrous acid under proper conditions, an almost instantaneous decomposition of the amino group occurs, and its nitrogen is evolved in the form of an elementary nitrogen gas. This gas can be measured accurately, and affords a delicate means for detecting amino-acids in minute quantities.

On experimenting with this method we found that the blood of a dog always contained a small amount of amino-acid nitrogen, and that this amount could be more than doubled by feeding protein. The concentration of the amino-acids in the blood was small even at its maximum but was entirely sufficient to account for the most rapid imaginable absorption of proteolytic products. It is now certain that digestive products are taken directly into the blood, and although the possibility of some synthesis in the course of absorption has not been excluded, there is at present no reason to believe that any such roundabout mechanism plays an important part in normal absorption. From the low amino-nitrogen content of the blood, it is apparent that if all the digestive products enter the circulation they must be removed from it very rapidly in order to keep their concentration so low.

In order to test the rate at which the removal occurs, we injected 12 gm. of alanin intravenously into a dog. The nitrogen was nearly 2 gm., an amount which in the form of protein could keep the animal in equilibrium for a day; yet five minutes after the injection, 88 per cent. of the injected amino-nitrogen disappeared from the circulation, and after half an hour the amino figure of the blood had dropped to 12 mg., which is about normal for a dog in digestive activity. The experiment was repeated with mixtures of all the amino-acids yielded by hydrolysis of casein, with absolutely similar results. It is probable that in man the fluctuations during digestion are less than those observed in dogs, owing to the lesser amount of protein ingested.

The next question that confronted us was what becomes of these products when they vanish from the circulation. Owing to the velocity with which the amino-acids disappear from the circulation it seemed that a physical explanation was more probable than a chemical one. Hence we analyzed the tissues after known amounts of amino-acids had been injected, observed them to disappear from the circulation and found that they were in fact merely absorbed by the tissues. As nearly as we could estimate it, all the injected amino-nitrogen was found again in the muscles and other organs. It will be seen that the tissues, even in a fasting animal, are about ten times richer than the blood in amino-acids. When the concentration of the latter is increased in the blood by injection, absorption into the tissues immediately occurs and leads to a new equilibrium between the blood and the fixed organs in respect to the content of both in amino-acids.

That such a state of equilibrium exists is indicated by the fact that, notwithstanding the extreme avidity of the tissues for these products, we never entirely removed them from the blood. A point worthy of note is that in the case of muscles a fairly definite saturation point exists which sets the limit to the amount of amino-acids that can be absorbed. We have never been able to force the amino figure of the muscles above 75 mg. per hundred grams of tissue. The statement that the amino-acids entering the blood-stream are merely absorbed without chemical alteration by the tissues is a very loose description of the phenomenon for which the complete explanation will be far from easy.

Our experiments, undertaken to determine how long the amino-acids can remain unaltered in the tissues, showed that the amino-acids disappear from the kidneys at a rate incomparably greater than that at which they leave the muscles, or apparently the other organs analyzed at the end of the experiment. In the muscles the drop was so slight that it hardly exceeded the differences which can normally occur in different sections of the same organ. The disappearance of the amino-acids from the liver and kidneys was accompanied by an increase in the urea content of the blood. These facts strengthen the view that the liver is active in transforming the products of protein digestion into urea. It was somewhat surprising to note a similar disappearance of amino-acids from the kidneys. Other experiments seemed to show that while the muscles are stored with amino-acids up to their saturation point after a heavy feeding of meat, the liver and kidneys metabolize their portion of the products as rapidly as they receive them. It is possible that the entire task of removing the digestive products from the circulation, when the other tissues become saturated, devolves on the liver and kidneys, and that most of the proteolytic products which they take up are normally broken down, the nitrogenous portion being broken up into urea. This hypothesis will explain many previously known facts.

DISCUSSION

DR. LOUIS FAUGERES BISHOP: In discussing this subject some time ago I was taken to task for predicting the existence of amino-acids in the blood. I have been making an intensive study of arteriosclerosis during the past three months, and I believe that arteriosclerosis is a disorder of the ultimate cells of the body in which the blood-vessels partake of an important share. The cells become sensitive to particular proteins, and this originates a subsymptomal reaction that causes the damage. The discovery of the lodgment of the amino-acids in the tissue so quickly that their detection in the blood is difficult is of extreme interest.

Studies in Experimental Pneumonia

An abstract of this paper by Dr. Martha Wollstein was published in THE JOURNAL, March 22, 1913, p. 942.

Current Medical Literature

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American Journal of Anatomy, Philadelphia

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In clotted plasma cultures, there is a radical difference in the behavior of the small and large thymus cells. The former show practically no capacity for further proliferation, but after a period of active motility, undergo degeneration; the latter exhibit active growth, often in the form of syncytial cell masses. They are actively phagocytic toward the degenerating small thymus cells. The small cells of the rat thymus show absolutely no morphologic differences from the lymphocytes of the lymph-nodes; they exhibit the same active motility and the same proneness to undergo degeneration when kept *in vitro*. The growth of rat thymus differs from that of lymph-nodes (1) in the early rarefaction of the implanted fragment, with the appearance of numerous large phagocytic cells; (2) in the formation of tissue-like planes composed of epithelial reticular cells differing in their appearance from the fusiform or stellate cells which grow from the connective tissue capsule or reticulum of the lymph-nodes. This characteristic difference corresponds to the different histogenesis of the thymic reticulum and suggests a different function.

2. **Development of Elasmobranch Liver.**—The observations made by Scammon in the course of his embryologic studies may be summarized as follows: The liver arises in Acanthias embryos of from 20 to 25 segments as a pair of shallow lateral diverticula from the lateral walls of the ventral half of the gut. These diverticula extend both behind and in front of the anterior wall of the yolk-stalk. The growth of the fore-gut posteriorly through the coalescence of the lateral walls of the yolk-stalk causes the lateral hepatic diverticula to lie mainly in front of the anterior wall of the yolk-stalk in later stages. The median ventral liver pouch described by Balfour and others is, in Acanthias at least, a secondary structure produced by the fusion of the anterior ends of the primary lateral diverticula. Three secondary parts are derived from each primitive lateral hepatic diverticulum. The anterior portion goes to the median hepatic pouch. The upper part of the middle portion forms the lateral hepatic pouch. The posterior part goes to form a posterior connecting segment between the liver and gut. This has been termed the pars ductus lateralis and later becomes a part of the ductus choledochus. At an early stage the liver shares in the left to right rotation which produces the spiral valve in the intestine and the lateral vitelline groove in the yolk-stalk. The median hepatic pouch is somewhat differentiated into two parts: an anterior one, the pars hepatica mediana to which the lateral pouches are mainly attached and which gives rise to hepatic trabeculae, and a posterior one, the pars ductus mediana, which forms the anterior part of the ductus choledochus. The anterior part of the left hepatic duct is formed from the left hepatic pouch and the left part of the pars hepatica mediana, and the anterior part of the right hepatic duct from the right hepatic pouch.

The hepatic ducts and ductus choledochus are very markedly rotated to the right about a vertical axis in a comparatively late stage. This rotation is probably due to the great growth of the left omphalo-mesenteric vein and the formation of a venous sinus below and to the left of the anterior end of the ductus choledochus. The difference in size of the right and left omphalo-mesenteric veins may be due to the longitudinal rotation of the gut. By this rotation the space between the left hepatic pouch and the median pouch and gut is somewhat increased while the corresponding space on the opposite side is decreased. A third shifting of the duct system and the gall-bladder forward and upward occurs at a much later stage. It is probably brought about through the great increase in size of the internal yolk sac.

The minor hepatic ducts arise as the elongated pedicles of definitely placed groups of hepatic tubules. These tubule groups are differentiated at the time when the liver loses its dorsal connection with the fore gut. The variations in position of the minor hepatic ducts in the adult depend on the degree of shifting of these tubule groups at the time when the main hepatic pouches are differentiated into hepatic ducts and when the rotations mentioned above take place.

The gall-bladder appears much later than do the primary lateral hepatic diverticula. It arises posterior to the hepatic anlage as a distinct evagination of the gut at the juncture of the floor of the fore-gut and anterior wall of the yolk-sac, and its intimate connection with the liver duct system is acquired secondarily. The gall-bladder loses its dorsal and posterior connection with the gut and is shifted forward and downward until its greatest axis is in the transverse plane of the body. In this way its connection with the ductus choledochus comes to lie in front of that of the lateral hepatic ducts. Subsequently the gall-bladder is again shifted upward and forward so that the cystic duct passes backward and downward to join the ductus choledochus.

The ductus choledochus is formed from three distinct elements: the anterior part from the pars ductus mediana, a derivative of the secondary median hepatic pouch; the middle part from the pars ductus lateralis, a derivative of the posterior part of the primary hepatic diverticula, and a posterior part formed from the floor of the duodenum and valvular intestine.

American Journal of Public Health, New York

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13 Annual Report of Condition of Yellow Fever Throughout Mexican Republic. E. Liceaga, Mexico City.
14 Estimation of Daily Soot Deposit in Indianapolis. H. E. Barnard and W. D. McAbee, Indianapolis.
15 Control of Temperatures in Pasteurization of Milk. C. H. Kilbourne, New York.

8. **Use of Bismuth Salts.**—During an investigation of the effect of bismuth subnitrate on intestinal bacteria and pathogenic entamebas, Darling observed that the stools, which became quite black after the administration of large quantities of the drug, contained many crystals of bismuth subnitrate the surface of which had become coated with bismuth sulphid. The crystals of bismuth subnitrate were not disintegrated but had taken up the hydrogen sulphid generated by the intestinal bacteria. In addition to this, he was struck by

the enormous numbers of micrococci and bacteria which were jet black in color evidently due to the absorption or assimilation of bismuth and its conversion into sulphid.

On account of the facility with which bismuth subnitrate is sulphuretted by certain micrococci and bacteria, it was thought that it might be used to advantage for the detection of sulphid-formers among water bacteria and for the detection of sulphur bodies of bacterial origin, and a series of comparisons was made with bismuth and lead acetate media. It was seen that bismuth subnitrate broth possessed certain advantages over broth prepared with lead acetate as usually advised for the detection of sulphid-forming bacteria, for a number of microorganisms were stained black or stained the media brown or black in bismuth broth, which exhibited no such changes in lead acetate broth. Inasmuch as the object of the lead acetate media is to demonstrate by a color reaction the formation of hydrogen sulphid by a microorganism, it would seem that if bismuth has a wider or different range of usefulness for this purpose, it should be employed instead of lead or in combination with it.

Darling's observations lead him to the opinion that the staining of bismuth subnitrate and lead acetate media is not always due to the excretion of hydrogen sulphid, as is generally believed, but may also be due to the assimilation of these heavy metals by certain microorganisms and the formation of metallic sulphids, by sulphur not necessarily existing as hydrogen sulphid but due to the intracellular splitting off of sulphur or sulphur bodies by hydrolysis, autolytic or other enzyme action.

American Journal of Obstetrics and Diseases of Women and Children, New York

March, LXVII, No. 423, pp. 433-648

16 *Chorionic Villi in Uterine Wall Eighteen Years After Last Pregnancy. E. Ries, Chicago.
17 *Difficulty of Producing Sterility by Operations on Fallopian Tubes. V. N. Leonard, Baltimore.
18 Classic Cesarean Section. E. P. Davis, Philadelphia.
19 Advantages of Suprasymphyseal Extraperitoneal Cesarean Section in Clean as Well as in Presumably Infected Cases. B. C. Hirst, Philadelphia.
20 Cesarean Section for Central Placenta Praevia. C. Foulkrod, Philadelphia.
21 *Treatment of Puerperal Sepsis at Sloane Hospital for Women. W. Ward, New York.
22 *Cases of Hydatidiform Mole at University Maternity. P. F. Williams, Philadelphia.
23 Why Incidental Removal of Vermiform Appendix, When Reasonably Possible, Should be the Rule. A. Goldspohn, Chicago.
24 *Chronicity of Appendicitis. J. H. Jacobson, Toledo, O.
25 Omental Cysts. L. Frank, Louisville, Ky.
26 *Good Way to Treat Femoral Hernia. T. B. Noble, Indianapolis.
27 *Cesarean Section in Double Uterus and Double Vagina. N. S. Scott, Cleveland.
28 *Postoperative Acute Dilatation of Stomach. C. E. Ruth, Des Moines, Ia.
29 Relation of Weight Curve of Infant to Food. J. M. Brady, St. Louis.

16. **Chorionic Villi in Uterine Wall.**—The case reported by Ries presents the unusual feature of degenerated villi found in the veins and in the wall of a fibroid uterus eighteen years after the last pregnancy. He believes that it tends to clear up the pathogenesis of those cases of chorio-epithelioma in which the tumor did not arise until many years after the last pregnancy. True, no chorionic epithelium was found on these villi. The epithelium-like covering of the villi which was observed cannot be considered anything but endothelium. He does not know at what time since the last pregnancy the chorionic epithelium became lost and was replaced by vascular endothelium. The absence of chorionic epithelium does not militate against the possibility of a chorioepithelial tumor originating from these villi at some time during the eighteen years which had elapsed between the last pregnancy and the removal of the uterus. The absence of the chorionic epithelium is evidently one of the reasons why in this case no chorioepithelioma was formed. The importance of this case, Ries believes, lies in the fact that it presents the hitherto unparalleled picture of a benign survival of chorionic villi in the uterine wall for as many as eighteen years after the last labor.

17. **Operations on Fallopian Tubes.**—Of the twenty-three instances in the gynecologic clinic of the Johns Hopkins Hospital, in which it was deemed advisable to attempt sterilization by ligation of the tubes, fourteen cases have been successfully traced. Of this number, five patients were over 40 at the time of operation. Two of the remaining nine patients became pregnant after operation. Until more satisfactory methods have been devised, Leonard says it would appear that extirpation of the tubes, together with excision of a wedge of uterine cornu, had best be adopted as the only simple procedure reasonably sure to prevent conception.

21. **Treatment of Puerperal Sepsis.**—In the last 8,000 deliveries at the Sloane Maternity, there have been thirty-nine cases of puerperal sepsis, 0.485 per cent. Of these thirty-nine cases, thirty-three had no interference postpartum except simple vaginal and intrauterine douches. There were four digital explorations on four patients. In two cases this was sufficient, while in the other two extension into the parametrium took place requiring later posterior vaginal sections. In the first of these latter two, the single colpotomy with drainage was sufficient, while in the other new local abscesses developed and required further incision and drainage. In this last case there were in all three vaginal sections done, and finally a laparotomy was necessary; through-and-through drainage was instituted with the result of controlling and clearing up the process. In one other patient, delivered by cesarean section, there was a breaking down of both abdominal and uterine wounds, and through-and-through drainage was instituted after the wounds had opened up as a result of the infection. This was done at one of the daily dressings, without anesthesia. The only other operative procedure was the opening by laparotomy of an intramural abscess of the uterus and draining by vagina as well as from above.

Of these thirty-nine patients, eleven died, a mortality of 28.2 per cent. However, two patients hardly belong to the series, as one died of pulmonary embolism after being up and about, convalescent, after a mild infection of a few days' duration, and the other, admitted in the eighth month of pregnancy, with a red-blood cell count of 1,100,000, with all the characteristic blood changes of a true primary pernicious anemia, died of exhaustion and anemia a few days post partum, although there probably was an element of infection in her case. All the remaining patients made good recoveries.

The causes of death in the eleven patients were: General septic peritonitis, 5 cases; pyemia and exhaustion, 4 cases; pernicious anemia, pulmonary embolism, each one case. In all these cases, save the last two, in which the sepsis was slight, there was a true bacteremia yet with no localized foci capable of being attacked by surgery. So none of the fatal cases had any of the operative measures detailed above, with the one exception of the through-and-through drainage employed in the case of infected cesarean section.

The prophylactic treatment employed consists in extreme care as to surgical asepsis, limiting as far as possible all antepartum, intrapartum and post-partum examinations, interference and instrumentation, resorting to them only when clearly indicated. The active treatment consists in: A. Obtaining adequate uterine drainage, first, by simple vaginal and intrauterine saline douches. This proving insufficient to control the process, explore the uterus once, and once only, to make sure that it is empty of foreign products, using the finger for the exploration, and with a minimum of trauma to the uterine tissues. B. Treat expectantly secondary foci as they arise, and C. Support the general condition of the patient.

22. **Cases of Hydatidiform Mole.**—In this series of four cases reviewed by Williams, two women had previously normal pregnancies; in the other two it was the first pregnancy. The ages varied, as follows: 22, 26, 27 and 30 years. Bleeding was a prominent symptom in three cases, abdominal pain in two, nausea in two, and severe vomiting was present in one case. The enlargement of the uterus as compared with that of normal pregnancy for a similar period of amenorrhea was in one case, twice the size to be expected, in a second case it was only slightly greater. The difference from normal in the two remaining cases could not be determined on account of the

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Iowa State Medical Society Journal, Clinton

March 11, No. 9, pp. 625-696

33 Abdominal Cesarean Section for Placenta Prævia. D. Macrae, Council Bluffs.
34 Carcinoma of Cecum: Its Diagnosis. O. J. Fay, Des Moines.
35 Physiology and Pathology of Hypophysis Cerebri. J. T. McClintock, Iowa City
36 Traumatic Injuries to Cornea. T. U. McManus, Waterloo.
37 Tuberculin Therapy of Pulmonary Tuberculosis. R. T. Pettit, Ottawa, Ill.
38 Urethral Obstruction by Prostate, with Report of Twenty-Six Cases. W. L. Allen, Davenport.
39 Treatment of Tonsillitis. F. G. Murphy, Mason City.
40 Actinic Sunlight in Treatment of Chronic Lesions of Skin. J. W. Kime, Fort Dodge.

Journal-Lancet, Minneapolis

March 15, XXXIII, No. 6, pp. 159-190

41 Trachoma with Special Reference to State of Minnesota. T. Clark, Evansville, Ind.
42 Operations for Uterine Prolapse Compared. A. W. Abbott, Minneapolis.
43 *Regeneration of Tendons. M. S. Henderson, Rochester, Minn.
44 History of Case of Spasmophilia with "Repeated Absences." J. P. Sedgwick, Minneapolis.
45 Eye-Strain as Etiologic Factor in Functional Diseases. J. C. Clark, Mt. Vernon, S. D.

43. **Regeneration of Tendons.**—In the experiments reported by Henderson the work was done on the tendo Achillis. One and a half inches of tendon was removed. The suture material used to bridge the defects was black linen. Two strands were the most used, the purpose being to provide a scaffolding on which repair could take place. In the dogs in which the sheath was saved, it was always closed with plain continuous catgut sutures. The skin was sutured with plain catgut. At the end of the operation a plaster-of-Paris cast was applied from the toes to the groin. This was removed in two weeks, after which time the dogs were allowed to run at will in their pens. The dogs were killed with chloroform at the end of six months; the legs were amputated and macroscopic and microscopic examination made.

In none of the animals in which the sheath was removed was there a well-marked freely movable sheath, as there is normally. In those in which the sheath was not removed, there was a nearer approach to the normal, though even here the sheath was more or less adherent. In one dog in which no linen was inserted to bridge the defect and the sheath was carefully sutured over the space with catgut, there was an anatomic restoration more nearly normal than in those in which the linen was inserted. The linen seemed to act as a foreign body, causing great proliferation, evidenced grossly by the increased size of the tendon. In one dog linen was inserted high up on the tendon and carried down the outside to be inserted into the periosteum. There was great proliferation macroscopically, and microscopically many giant cells were present. In this instance there was apparently an unsuccessful attempt to absorb the linen. Linen was used in three of the animals. In two the linen was used to bridge a defect caused by the removal of a piece of tendon. In the first dog the sheath was left and sutured over the two strands of bridging linen. In the second the linen was left uncovered by the sheath, the sheath and peritendineal structures being removed along with the piece of tendon. In both there was a complete restoration of function. On dissecting the specimens only knots of the linen were found. The third dog is the one in which there was great proliferation and numerous giant cells.

Journal of Cutaneous Diseases, New York

March, XXXI, No. 3, pp. 145-220

46 So-Called "Annular Syphilis" of Negro. H. H. Hazen, Washington, D. C.
47 Course Virus of Herpes Zoster Takes to Reach Nerve Ganglion. D. W. Montgomery, San Francisco.
48 Multiple Primary Carcinoid of Skin in Infant. W. Hutchinson, Montreal.

Journal of Medical Research, Boston

March, XXVII, No. 4, pp. 391-540

49 *Relation of Bordet-Gengou Bacillus to Lesion of Pertussis. F. B. Mallory, A. A. Horner and F. F. Henderson, Boston.
50 *Morphologic Changes in Tissues with Change in Environment.—Changes in Gall-Bladder Following Autoplastic Transplantation into Gastro-Intestinal Tract. M. Smith, St. Louis.
51 *Morbid Histology of Cardiac Nervous Ganglia. J. McFarland and A. Anders, Philadelphia.
52 Group of Mice with Exceptional Resistance to Mouse Carcinoma. J. McFarland and G. McConnell, Philadelphia.
53 Immunizing Effect on Guinea-Pigs of Small Doses of Diphtheria Toxin. H. R. Brown, Boston.
54 *Meningitis in Infant Caused by Typhoid Bacillus. H. W. Lyall, Brooklyn.
55 Outbreak of Acute Disease in Adult Fowls, Due to Bact. Pullorum. F. S. Jones, Ithaca, N. Y.
56 Value of Macroscopic Agglutination Test in Detecting Fowls That Are Harboring Bact. Pullorum. F. S. Jones, Ithaca, N. Y.
57 *Nature of Anaphylaxis and Relations Between Anaphylaxis and Immunity. R. Weil, Ithaca, N. Y.
58 *Leukocytic Inclusions of Döhlé. W. T. Cummins, San Francisco.

49. **Bordet-Gengou Bacillus.**—The authors have already shown that the primary essential lesion of whooping-cough consists in the presence of masses of minute bacilli between the cilia of the epithelial cells lining the trachea and bronchi. Their action is chiefly mechanical: they interfere with the normal movements of the cilia by sticking them together; in this way the microorganisms furnish a continual irritation which results in the symptoms peculiar to the disease. Their next experiment was to find out if they could produce in animals the same peculiar lesion they had found in man. For this purpose a puppy was inoculated intratracheally at intervals of one week for five weeks with sputum collected from patients in the acute stage of whooping-cough. The animal was killed at the end of six weeks and the tissues fixed in Zenker's fluid. The sections showed numerous minute bacilli between the cilia of many of the epithelial cells lining the trachea. They correspond morphologically in every way with those occurring in the human tissues.

The next step was to obtain, if possible, a pure culture from a case of whooping-cough and repeat the experiment with it. Sputum was examined from thirty patients in the acute stage of the disease. The characteristic bacillus was found in all in large numbers and often in an almost pure state both free and enclosed in polymorphonuclear leukocytes and rarely between the cilia of desquamated epithelial cells. After repeated failures, pure cultures were finally obtained directly from the sputum from two different patients. A third pure culture was obtained indirectly from a puppy infected by means of sputum injected into the trachea. It was found impossible to start cultures except on the potato-blood-agar medium devised by Bordet and Gengou.

Several puppies were directly inoculated in the trachea with pure cultures. In two of the puppies the success of the inoculation was readily demonstrable in sections. The bacillus was reobtained in pure culture from one of the dogs, but not from the other. In four puppies the results were negative. The dogs in which the results were negative all came from one litter and were strong, healthy animals. The organisms were obtained in cultures, however, from the trachea or lung in each instance. Three adult monkeys (*Rhesus macacus*), inoculated intratracheally, showed no symptoms, and were therefore not killed. Infection readily took place in rabbits. In all the animals successfully inoculated the *Bacillus pertussis* was found regularly in the trachea, less often in the larger and smaller bronchi, and in four instances (all rabbits) in the nares. In all of these situations it occurred between the cilia of the lining epithelial cells. In addition it was occasionally found free in the secretion in the trachea or bronchi. Several puppies kept in the same cage with the first one inoculated with sputum acquired infection by direct contact or by contagion and showed the typical lesion in the trachea and lungs.

50. **Morphologic Changes in Tissues.**—The technic employed by Smith was that commonly used in the performance of anastomosis between the gall-bladder and intestine by the suture method. A direct implantation, however, was often supplemented by a second operation done several weeks later, which aimed at detaching the gall-bladder completely from its usual site in order to separate it from its customary nerve and blood supply. In the second operation the abdomen was again opened, the cystic duct ligated and divided, and the gall-bladder severed from its attachment to the liver. The tissues of the

fundus of the gall-bladder, now firmly united to the intestine at the point of anastomosis, obtained an entirely satisfactory blood supply from the intestinal wall. The gall-bladder was cut down to a piece corresponding to about one-third to one-half of its original size. The open end of the gall-bladder was then inverted and closed by a double layer of silk sutures, so that, when the operation was completed, a gall-bladder diverticulum was formed which communicated directly with the intestinal tract.

Smith found that autoplastic transplantation of the tissues of the gall-bladder into the gastro-intestinal tracts is followed by definite histologic changes as a result of adaptation of the transplanted tissue to new environment. Gall-bladder tissue transplanted into the gastro-intestinal tract undergoes hypertrophy of the mucosa with development of new lymphoid tissue. When transplanted into the stomach, the hypertrophy of gall-bladder mucosa may become especially marked, and be associated with active proliferation and degeneration of the transplanted cells with mucous production. The increase in lymphoid tissue developed in the gall-bladder transplanted to the surface of the intestinal tract, whereas a considerable decrease of lymphoid tissue occurs in gall-bladder transplanted into the sterile peritoneal cavity, affords evidence that the development of lymphoid tissue is in response to bacterial environment and possibly to other chemical or mechanical causes injurious to the tissue. There is no experimental evidence that a metaplasia occurs in gall-bladder tissue in fistulous communication with the intestinal tract, such as has been described as taking place in the human gall-bladder under similar conditions.

51. **Histology of Cardiac Nervous Ganglia.**—The nerve cells scattered over the surface of the human heart are said by McFarland and Anders to resemble the cells of the sensory type, and probably are a part of the sensory nervous mechanism of the heart. These cells may differ from other sensory nerve cells in that an eccentric position of the nucleus is normal to them. The nerve cells of the cardiac ganglia are very frequently diseased. The diseased cells occur in the ganglia side by side with normal nerve cells. No disturbance of the cardiac movements seem to result from the disturbance of these cells. The bradycardia in the case specially studied by the authors could not be referred to the diseased condition of the nerve cells of the cardiac ganglia.

54. **Meningitis Caused by Typhoid Bacillus.**—The case described by Lyall was one of purulent meningitis in a child 5½ months old. An organism corresponding to bacillus typhosus in its morphology, cultural characteristics and biochemical reactions, was isolated from the spinal fluid and also from the nose before death, and was obtained in pure culture from the brain, cord, spleen and heart's blood at autopsy. The usual pathologic lesions characteristic of typhoid were absent.

57. **Nature of Anaphylaxis.**—The results of Weil's experiments lead him to the conclusion that anaphylaxis is due to the reaction between specific antibodies present in the cells and the introduced antigen. In passive sensitization, the body cells absorb the introduced antibodies from the blood, and the animal is thus made anaphylactic. The function of immune bodies present in the serum is to neutralize the introduced antigen, and so to protect the body cells. The anaphylactic animal regularly contains in his circulation an insufficient quantity of antibodies to protect the body cells. The immunized animal is potentially anaphylactic. His body cells possess anchored immune bodies, but are protected by those in circulation. Exactly the same antibodies are present in anaphylaxis as in immunity. In the former they predominate in the cells—in the latter, in the serum.

58. **Leukocytic Inclusions.**—Cummins made 155 examinations of ninety[illegible] febrile and twenty-six afebrile cases, seventeen normal individuals and sixteen laboratory animals. Among the diseases are typhoid (17 cases), scarlet fever (15 cases), tuberculosis (14 [illegible]ases), croupous pneumonia (4 cases), mumps (4 cases), local suppuration (4 cases), acute bronchitis (3 cases), acute articular rheumatism (3 cases), otitis media (2 cases), syphilis (2 cases), hernia (2 cases), one each of pyemia, gangrene, glanders and epidemic meningitis. In each case 100 neutrophils were examined, except for typhoid, in which fifty cells were examined. Two to four smears were made from each patient and strained by the Giemsa as well as the Manson method. Cummins is convinced that the so-called inclusion bodies are to be found in practically all febrile diseases and that they, in some cases, persist in decreasing numbers well into convalescence; in pyogenic conditions (chronic) of afebrile character; in severe injuries without febrile disturbance and in some normal individuals. They are apparently absent in laboratory animals. A nuclear origin seems probable. The alleged specificity to scarlet fever was not corroborated.

Journal of Nervous and Mental Disease, Lancaster, Pa.

March, XL, No. 3, pp. 145-216

59 Status of Apraxia with Study of a Case. (To be continued.) A. Glascock, Washington, D. C.
60 Case of Hypoglossal Nuclei Paralysis. A. M. Moll.
61 *Occurrence of Syphilitic Organism in Brain in Paralysis. J. W. Moore, Central Islip, N. Y.

61. The same subject was discussed by Noguchi and Moore, *Jour. Experimental Medicine*, Feb. 1, 1913, and abstracted in The Journal, February 22, p. 626.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

March, IV, No. 4, pp. 251-362

62 Pharmacologic Action of Catha Edulis and Its Alkaloids. R. Stockman, Glasgow.
63 Chemical and Pharmacologic Properties of Hederin, a Sapo-Glucosid Contained in the Leaves of Common Ivy (Hedera Helix). B. Moore, Liverpool.
64 Epinephrin. H. McGuigan and H. T. Mostrom, Chicago.
65 Peripheral Action of Certain Drugs with Special Reference to Lungs. D. E. Jackson, St. Louis.
66 Observations on Fungi, Particularly Clitocybe Sudorifica Peck, Pholiota Autumnalis Peck and Inocybe Decipiens Bresadola. W. W. Ford and J. L. Sherrick, Baltimore.
67 *Resistance of Various Spirochetes in Cultures to Action of Chemical and Physical Agents. J. Bronfenbrenner and H. Noguchi.

67. **Resistance of Spirochetes.**—The authors found that while in a culture spirochetes remain alive at room temperature for many weeks, yet as it results at the end of twelve hours most of them are already dead. The reason for this is not the temperature, but the unfavorable conditions of experiment as: lack of nutritive substances, presence of oxygen, effect of light, the toxic effect of sodium chlorid, etc., all of which markedly diminish the viability of spirochetes. As the temperature is heightened the viability of spirochetes suffers more, as we would naturally expect and even at the end of six hours at 37 C. we already see marked differences between the tubes exposed, respectively, to room and 37 C. temperature. At the temperature of 45 C. the rate of this process increases so much that already at the end of seven minutes most, and at the end of ten minutes all of the organisms tested were dead. On the other hand, the spirochetes survive for many hours at 45 C. if they are subjected to this temperature under the favorable conditions such as are provided in the growing culture tubes, viz., strictly anaerobic conditions, properly balanced saline constituents and other nutrient substances. The toxic effect exerted by the chemicals in the experiments was from twenty to one hundred times greater if tested on spirochetes than it was against colon bacillus. The toxic effects of salvarsan were increased from two to five times and possibly more in the presence of enzymes from the liver and especially from the blood. Spirochetes suspended in physiologic salt solution are sterilized by the temperature of 45 C. in from seven to ten minutes.

Kentucky Medical Journal, Bowling Green

March 15, XI, No. 6, pp. 233-266

68 Have We a Trachoma Problem? C. T. Wolfe, Louisville.
69 Eclampsia. E. Speidel, Louisville.
70 Hay Fever. D. H. H. Wolfe, Louisville.
71 Four Cases of Appendicitis Associated with Foreign Bodies (Coal, Grape Seed, Oxyuris, Bismuth). J. W. Price, Louisville.

72 Three Cases of Imperforate Anus. G. P. Grigsby, Louisville.
73 Radiographic Plates Showing Malposition of Stomach and Large Intestine. D. Y. Keith, Louisville.
74 Suprapubic Cystotomy. C. G. Forsee, Louisville.
75 What Does the Cystoscope Reveal? G. H. Day, Louisville.
76 Separation of Symphysis During Delivery. H. E. Tuley, Louisville.
77 Morovan's Disease. M. L. Ravitch, Louisville.
78 Case of Pellagra. M. L. Ravitch, Louisville.
79 Management of Compound Fractures. A. D. Willmoth, Louisville.

Kansas Medical Society Journal, Kansas City

March, XIII, No. 3, pp. 95-138

80 Wassermann Reaction in Relation to Diagnosis and Treatment of Syphilis. L. S. Milne, Rosedale.
81 Etiology of Eclampsia. L. V. Sams, Topeka.
82 Diagnosis and Treatment of Extrauterine Pregnancy. J. C. McGee, Leavenworth.

Medical Record, New York

March 29, LXXXIII, No. 13, pp. 553-598

83 Occurrence of Dextrorotatory Albumins in Organic Nature. J. Beard, Edinburgh, Scotland.
84 Action and Administration of Crotalin in Pulmonary Tuberculosis and in Epilepsy. T. J. Mays, Philadelphia.
85 Menace of "Recovered" Insane. E. H. Williams and J. S. Brown, Montclair, N. J.
86 Differential Diagnosis Between Pneumonia and Appendicitis. G. F. Boehme, Jr., New York.
87 Brief Comparison Between Hospital Service in Germany and That in United States; with Reference to Requirements for Medical Practice. H. J. Boldt, New York.
88 Treatment of Erysipelas in Infants by Means of Vaccines. E. M. Sill, New York.

Military Surgeon, Washington, D. C.

March, XXXII, No. 3, pp. 221-324

89 Evolution of Ambulance Corps and Field Hospital. L. C. Duncan, U. S. Army.
90 Typhoid Prophylaxis in British Army in India and in American Army in United States. A. G. Love, U. S. Army.
91 New York Division, M. R. C., U. S. Army. H. S. Baketel, New York.

New York Medical Journal

March 29, XCVII, No. 13, pp. 633-688

92 Massive Doses of Roentgen-Ray in Epithelioma. G. M. MacKee and J. Remer, New York.
93 *Hospital Morbidity Statistics. C. F. Bolduan, New York.
94 Suprapubic Cystostomy. C. G. Cumston, Boston.
95 Improved Roentgen-Ray Generator. S. Tousey, New York.
96 Extract of Adrenals. J. Aikman, Rochester, N. Y.
97 Chronic Seminal Vesiculitis. A. Hyman and A. S. Sanders, New York.
98 Newer Teachings of Diseases of Gastro-Intestinal Canal: Examination of Chyme. M. I. Knapp, New York.
99 Dreaming and Dreams. G. Drenford and L. K. Hirshberg, Baltimore.
100 Hyperidrosis; Etiology and Treatment. H. G. Wertheimer, Pittsburgh.
101 Plea for More Expert Anesthetists. M. Lavandera, New York.
102 Prevention of Otitis Media. M. Lubman, New York.
103 *Ten Cases of Goiter. J. J. Gilbride, Philadelphia.
104 Salvarsan in Asthma. L. E. Glasgow, Pittsburgh.

93. **Hospital Morbidity Statistics.**—A practicable method of making hospital morbidity statistics uniform and preparing them for analytic study is presented by Bolduan. The basis of the system proposed is the "Discharge Certificate," a form of report very similar to the ordinary death certificate. These discharge certificates would be supplied to all the cooperating hospitals, and for each patient discharged from a hospital, a discharge certificate, properly filled out and signed, would be sent by the hospital to a central recording bureau. The discharge certificates contain the ordinary data concerning the sex, age, race, nationality, social condition, occupation and residence of the patient, and then certain data pertaining to the patient's admission, stay in, and discharge from the hospital, the disease and its complications, etc. At the central recording bureau each certificate is looked over by a trained physician registrar, who indicates on each certificate the correct designation, in the standard nomenclature, under which the certificate is to be classified. It then passes to a tabulating clerk, who transfers, by means of punch holes, all the information on each certificate to a correspondingly numbered tabulating card. These cards are specially prepared to fit machines which sort and count the cards into any desired groups. In order to give an idea as to the utility of such tabulations, and the light they would shed on hospital practice and hospital administration, a number of specimen tables are presented.

103. **Cases of Goiter.**—The ten cases of goiter reported on by Gilbride represent six cases of exophthalmic goiter and four cases of simple goiter. The cultures and stained sections of all of these cases were negative, with the exception of the culture made from one case of exophthalmic goiter which gave a growth of *Micrococcus tetragenus.* In a series of fourteen cases reported by Gilbride previously (The Journal, Dec. 16, 1911, p. 1988), there were six cases of exophthalmic goiter and eight cases of cystic goiter. A growth was obtained by culture in two cases. One case of exophthalmic goiter gave a growth of *Micrococcus tetragenus*, and a growth of *Streptococcus vermiformis* of Sternberg was obtained from one case of cystic goiter.

Old Dominion Journal of Medicine and Surgery, Richmond, Va.

March, XVI, No. 3, pp. 97-150

105 Nature of Malignant Tumors. A. G. Brenizer, Charlotte, N. C.
106 Principles of Serum Therapy. I. Battle, Rocky Mount, N. C.
107 Ligation of Superior Thyroid for Goiter Under Local Anesthesia, with Report of Case. L. Watson, Oklahoma City.

New Jersey Medical Society Journal, Orange

March, IX, No. 10, pp. 491-544

108 Indurative Headache. C. C. Beling, Newark.
109 Phthisiophobia. T. W. Orange
110 Cholecystic vs. Duodenal and Duodenal Versus Cholecystic Disease. J. B. Deaver, Philadelphia.
111 Ethical Problems Confronting Eye, Ear, Nose and Throat Specialist. L. Emerson, Orange.
112 Diagnosis of Incipient Pulmonary Tuberculosis. C. V. R. Bumsted, Newark.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Children's Diseases, London

March, X, No. 111, pp. 97-144

1 *Multiple Calcification ("Calcinosis") in Subcutaneous Tissue. F. P. Weber.
2 Subaortic Stenosis. H. Thursfield and H. W. Scott.
3 Case of Patent Ductus Arteriosis. R. Miller and G. H. Orton.

1. **Multiple Calcification in Subcutaneous Tissue.**—Weber's patient, aged 7 years, was admitted to the hospital on account of the presence of a large number of hard nodules in the subcutaneous tissue of the extremities and the portions of the trunk adjoining the extremities. Most of the nodules were smaller than an average pea, but some of them, especially those on the buttocks and about the knees, were much larger, the larger nodules having apparently arisen by the coalescence of several smaller nodules. The face, head, thorax and abdomen were practically free. On the child's admission to the hospital the skin over one of the nodules was ulcerated, and the skin was inflamed and adherent over one or two others, but the nodules, as a rule, gave rise to no pain or tenderness, and seemed to have developed without the child being aware of their existence. The lymph-nodes in the groins and right axilla, and some in the neck, were moderately enlarged. The liver and spleen could not be felt, and the child seemed to be free from any visceral disease. The urine contained no albumin or sugar. There was no fever. The presence of hard subcutaneous nodules was first noticed twelve months before the patient's admission to the hospital, and since these were detected many others had appeared. One little nodule near the right knee became very prominent and discharged spontaneously six weeks before admission. In regard to the patient's past history, she is said to have been subject to skin eruptions, but the chief point is that in November, 1909, she was under treatment at a fever hospital for scarlet fever, and that from that time to August, 1910, she suffered successively from diphtheria, paresis of the lower extremities (diphtheritic paralysis?), a skin eruption somewhat resembling lichen ruber, pneumonia, an abscess in the right axilla and an abscess at the back of the neck, a corneal ulcer (marantic?) of the left eye, and left-sided

otorrhea. The corneal ulcer perforated (giving rise to considerable prolapse of the iris), but ultimately healed up again. During the latter period of this succession of illnesses the patient was in the hospital. She left the hospital on Aug. 1, 1910, but was readmitted in September of the same year for temporary fever of uncertain origin. Since that time the child's condition seems to have remained satisfactory until the appearance of the subcutaneous nodules first attracted the parents' attention about August, 1911. That the subcutaneous nodules consist largely of calcareous material has been proved both by Roentgen-ray examination and by chemical analysis. The nodules occasionally become inflamed and softened, the skin over them becomes adherent, and if left to themselves thin purulent matter mixed with calcareous debris would be discharged.

British Medical Journal, London

March 15, I, No. 2724, pp. 537-592

4 *Alimentary Toxemia. W. H. White.
5 *Bacteriology of Alimentary Canal. F. W. Andrewes.
6 *Alimentary Toxemia: Its *Symptoms and Treatment.* R. Saundby.
7 Idem: Consequences and Treatment from Surgical Point of View. W. A. Lane.
8 Death by Electric Currents and Lightning. A. J. Jex-Blake.
9 Necessity of Recognizing Midwifery as Branch of Surgery. V. Bonney.

4. Also published in *The Lancet.*

5. **Bacteriology of Alimentary Canal.**—As to the part played by bacteria in alimentary toxemia, it seems to Andrewes reasonable to lay down the following propositions: In an important group of cases the poisoning is by foreign proteins, as such, the defect lying in the liver, which ought to shield the body from their effects. With this, bacteria have, as a rule, nothing to do. The main effect of bacterial activity in the production of alimentary toxemia lies in their ability to carry out protein cleavages beyond the capacity of the ordinary digestive ferments, with the formation of products which, when in excess, the body is unable to neutralize. There is at present little evidence that true toxins, derived from the ordinary flora of the gut, soluble or intracellular, play much part in alimentary toxemia.

6. **Symptoms and Treatment of Alimentary Toxemia.**—Under physiologic conditions, Saundby says, the natural protective agencies in the alimentary system are sufficient to shield the body from the dangers of poisons formed therein or of those introduced with the food, provided that these are not in overwhelming amount. Infrequent or incomplete evacuation of the colon is not in itself a cause of disease. Such morbid symptoms as arise result from a breakdown in the protective machinery, in consequence of functional defects or pathologic changes in the organs concerned. Wholesome food in reasonable quantities may consist of animal or vegetable protein, carbohydrates and fat in due proportion, and the evidence does not justify the entire exclusion of animal protein, as being directly or indirectly the cause of toxemia. When toxemia is present treatment should be based on the principles of eliminating the poison already present, preventing any further introduction and reinforcing the natural protective agencies. Where there is extensive disease of the wall of the colon the exclusion or removal of this organ is a justifiable proceeding after a reasonable trial has been given to medical methods.

Edinburgh Medical Journal

March, X, No. 3, pp. 193-288

10 Inquiry into Outbreaks of Febrile Illness, with Rapidly Fatal Cases, Occurring in Boys' Industrial School Near Edinburgh. C. McNeil and J. P. McGowan.
11 *Carcinoma of Stomach; Analysis of 200 Cases. J. Langwill.

11. **Carcinoma of Stomach.**—Langwill summarizes his study of 200 cases as follows: Gastric cancer is probably the commonest form of malignant growth occurring in males. Perhaps with the exception of the uterus and breast, it is also the most common form of malignant growth in females. It is all-important therefore that greater attention should be given to its early recognition. Females are far more frequently affected than text-books would lead one to imagine. Gastric cancer is not so much a disease of middle age as one would be led to believe, a marked percentage of cases occurring under 40. The prevalence of the belief that it is a disease of middle age has often led to disastrous results in the diagnosis of the disease under 40. Heredity, in some cases, plays an important rôle in etiology. When present, it is usually markedly so.

All cases of gastric ulcer, healed or unhealed, are potential carcinomas. Alcohol, by acting as an irritant, may cause ulceration and, later, carcinoma, or it may cause carcinoma directly. Oral sepsis and carious teeth probably are important factors also. "Pyloric" carcinomas are more common than "gastric." As a rule, the former give more definite signs. They should accordingly be more easily diagnosed, and as they lend themselves more readily to excision, operative results should be brighter. Gastric disturbance in a person of over 45 should always arouse suspicion and be considered seriously. Unless definite improvement occurs in three or four weeks under medical treatment, such cases should be dealt with surgically. Systematic weighing in all gastric cases should be more commonly practiced, carcinoma being marked by a steady decrease in body-weight.

Anemia being marked in most cases only toward the close, blood examination is probably useless as a help to early diagnosis. Like anemia, subnormal temperature also is probably a late occurrence. Constipation is a marked feature in practically every case of carcinoma of the stomach. But its occurrence is so common, even in health, that it must only be awarded secondary consideration. Anorexia as a symptom is of the greatest importance—especially if occurring in a person over 45 previously healthy—all the more so if it be accompanied by a feeling of load or weight in the epigastrium after food, by eructations, water-brash and heartburn. Vomiting and hemorrhages as symptoms are too often late occurrences to be of value in diagnosis in the early stages. Pain is an almost invariable early symptom. Examination of test-meals should be more commonly performed. On the results obtained, however, reliance can be placed only in the late stages. In the early stages they may support a doubtful diagnosis. Careful abdominal examination is essential. It must be performed leisurely and frequently repeated. The presence of a tumor above the umbilicus should be a signal for immediate action, provided the bowels have been cleared out, and a splenic or hepatic origin excluded.

Scientific tests should be more generally resorted to. The disease, however, first comes under the notice of the ordinary practitioner, who, in many cases, unfortunately lacks both the time and the facilities for the necessary investigations. In most cases scientific tests are applied and results drawn ~~there~~from only when the disease is clinically almost unmistakable. Cases in the past have been sent to the surgeon much too late—a fact clearly brought out by the relatively small number in which a radical operation was possible.

The only cure at present is a surgical one, and the mere prolongation of life is possible only through surgical intervention. All cases of doubtful gastric disorder, therefore, should be submitted to a careful examination, first without and later (if necessary) under a general anesthetic. This applies both to chronic cases and to cases occurring in persons over 45 with a previously clean gastric history. If, thereafter, doubt exists, the situation being clearly and definitely described to the patient and his friends, a surgeon should be consulted. With the surgeon eventually must the issue lie. Only by the collaboration of physician and surgeon will an early diagnosis be arrived at, and a consequent radical treatment be rendered possible.

Glasgow Medical Journal

March, LXXIX, No. 3, pp. 161-239

12 *Two Unusual Forms of Spina Bifida. G. H. Edington.
13 Sporadic Congenital Deafness and Deafness from Syphilis. J. K. Love.

12. **Two Unusual Forms of Spina Bifida.**—The cases reported by Edington are: (1) Spina bifida occulta in upper cervical region with irregular formation of laminae and a large mass of fat covering the vertebral defect. (2) *Lumbosacral spina*

bifida, presenting large unilateral swelling in right gluteal region and deformity of corresponding lower limb.

Journal of Tropical Medicine and Hygiene, London

March 1, XVI, No. 5, pp. 65-80

14 Climate and Other Factors in Relation to Health of Europeans in China. J. G. Cormack.
15 Tropical Diseases in Tripoli. U. Gabbi.
16 Intestinal Parasites in Costa Rica. S. C. Jamisón.

Lancet, London

March 15, I, No. 4672, pp. 737-802

17 Surgery of Thyroid, with Special Reference to Exophthalmic Goiter. J. Berry.
18 Alimentary Toxemia. W. H. White.
19 *Etiology of Cysts Connected with Hernia Sacs. R. W. Murray.
20 Static Cyclophoria. A. A. Bradburne.
21 *Treatment of Carbuncles, Boils, Staphylococcic and Streptococcic Infections by Internal Administration of Dilute Sulphuric Acid B. P. J. Reynolds and R. J. Reynolds.
22 *Tuberculin Treatment of Pulmonary Tuberculosis. N. D. Bardswell.
23 Some Anatomic Considerations of Disposition of Sciatic Nerve and Femoral Artery. F. Wood-Jones.
24 Retained Placenta of Extra-Uterine Pregnancy. J. Aikman.
25 Case of Gangrene of Leg in Infant 11 Days Old; Amputation; Recovery. D. C. L. Fitzwilliams and W. H. Vincent.

19. **Etiology of Cysts Connected with Hernia Sacs.**—A young man suffering with a "hydrocele of the cord" presented himself to Murray. At the operation a small hernia sac was found, and connected with the fundus of the sac were two patent funicular processes, each of which opened into the sac. At the blind end of the shorter process was a tense cyst, 1 inch in length which contained clear fluid. The longer process had a uniform lumen and passed downward behind the cyst, to which it was intimately adherent. The lower end of this process was connected with the tunica vaginalis by a fibrous cord, so that it undoubtedly was the remains of the true processus vaginalis testis. A second case was that of an adult male, who was admitted to hospital for the cure of a scrotal hernia which had existed for many years and could not be reduced satisfactorily. At the operation a large cyst, which contained clear fluid, was found lying on and intimately adherent to the anterior surface of the sac wall. Murray submits that as the gubernaculum is undoubtedly responsible for the presence of the peritoneal diverticulum known as the processus vaginalis testis, circumstantial evidence is strongly in favor of the view that if this process is found to be duplicated then this second diverticulum must be due to a duplication of the force which produced the first. If this premise be correct then the subsequent irregular obliteration of these processes, Murray believes, clearly accounts for the anomalous conditions described.

21. **Sulphuric Acid for Carbuncles, Etc.**—The treatment used by the Reynoldses in these cases consisted in administering internally dilute sulphuric acid B.P. in 20- or 30-minim doses, each dose diluted with 2 ounces of water, every four hours. In the case of carbuncle treated by this drug in large doses (small doses are not of the slightest use), changes are observed to take place in the following order: First, within twenty-four hours the infiltrated area of tissue becomes strictly circumscribed; then the slough is observed to soften; during the next few days pus is freely discharged, and the whole affected area shrinks and healthy granulation tissue forms, filling up the cavity until the part is healed. The cicatrization takes place in a comparatively short time from the commencement of the treatment, the period varying, of course, with the size of the lesion. The only external application is a dressing of phenolized petrolatum (1 in 20).

In cases of what would appear to be streptococcic infection, such as those resulting from abrasions or punctures by bones of high game, or inoculation by decomposing animal matter, the patient showing early symptoms of septicemia, a somewhat different though favorable course obtains; the high temperature is quickly reduced and the pain and swelling and malaise gradually subside, the patient progressing uninterruptedly toward convalescence. Where the lymphatics are inflamed and the glands enlarged and painful these conditions in a few days also disappear.

The authors have treated in the same way a very large number of patients—e. g., blind boils, which are aborted and completely disappear. Recurrent crops of boils and pimples in different parts of the body and severe cases of acne have yielded readily. In one case in particular, in which the patient developed recurrent crops of boils, the drinking-water was found to be taken from a very foul cistern with dead animal and vegetable matter covering the bottom. This remedy proving so effectual in such classes of cases, they were led to try its effect on other conditions where pyogenic organisms were responsible for some of the symptoms observed. Cases of bronchiectasis and pulmonary tuberculosis, in which there is so often a staphylococcic infection, were benefited; the sputum becomes less purulent and much less in quantity, and in tuberculous cases the fluctuations of temperature are less.

22. **Treatment of Pulmonary Tuberculosis.**—Bardswell recommends the tuberculin treatment and cites the records of patients treated at the King Edward VII Sanitarium.

Annales de Médecine et Chirurgie Infantiles, Paris

January 1, XVII, No. 1, pp. 1-32

26 Treatment of Tuberculosis in Children on the Mediterranean Coast. L. Revillet.
27 Direct Sunlight in Treatment of Tuberculous Peritonitis; Rapid Cure in Three Cases. D'Oelsnitz.
28 Modification of Abbott's Method of Treating Scoliosis. Q. Calve and L. Lamy.

January 15, No. 2, pp. 33-64

29 Vomica in Children. Maillet and Aime.
30 Diagnostic Importance of Manner of Children's Crying. (Le diagnostic du "cri" chez l'enfant.) R. Saint-Philippe.
31 Radioscopy in Diagnosis of Infants' Diseases. (Applications de la radiologie à l'étude des maladies du nourrisson.) G. Variot.
32 General Principles for Treatment of Tuberculous Spondylitis. (Considérations sur le mal de Pott.) Froelich.

February 15, No. 4, pp. 97-128

33 Fascia Graft to Correct Spina Bifida. (La greffe aponeurotique libre dans l'opération du spina bifida.) G. Piéri.
34 Gastro-Enterostomy on Thirteen-Day Infant. (Sténose hypertrophiante du foie chez un nourrisson. Gastroentérostomie. Guérison.) Fredet and L. Tixier.
35 Pulmonary Complications of Scarlet Fever. Two Cases. R. Porak.

March 1, No. 5, pp. 129-164

36 *The Alimentary Saccharose Test for Infants. (L'épreuve de la saccharosurie alimentaire chez le nourrisson.) Gaujoux.
37 Chronic Appendicitis in Children. P. Lereboullet.
38 Inefficiency of Serotherapy by the Rectum. E. Lesné and L. Dreyfus.

36. **Saccharose Test for Infants.**—Gaujoux summarizes forty-eight cases in which he applied the alimentary saccharosuria test. The results show that when saccharose appears in the urine after ingestion of less than 2 gm. per kilogram of weight, there is reason to assume insufficient functioning on the part of the liver or intestines or both, and the prognosis should be guarded. The test was made with ordinary simple syrup containing 50 per cent. saccharose.

Archives des Maladies du Cœur, etc., Paris

March, VI, No. 3, pp. 161-224

39 The Intersystole in Man. (L'intersystole chez l'homme. Démonstration clinique de son existence chez l'homme et du mécanisme de la fermeture des valvules auriculo-ventriculaires.) G. Etienne.
40 Sudden Death in Perpetual Arhythmia. (La mort subite dans l'arythmie complète.) J. Heitz and G. Clarac.
41 Case of Anemic Diastolic Murmur at Base of Heart. Bouchut and Mazel.
42 Lymphoid Leukemia in Cattle. (La leucémie lymphoide chez les bovidés.) C. Aubertin and T. Morel.
43 *Arterial Pressure During Digestion. M. Loeper.

April, No. 4, pp. 225-304

44 Alternating Rhythm After Extrasystole. (Alternance du pouls révélée à la suite d'une extrasystole. Sa valeur pronostique.) J. Heitz.
45 Atypical Chloroma. (Etude clinique hématologique et anatomique d'un cas de chlorome atypique.) Pissavy and C. Richet, Jr.

43. **The Arterial Pressure During Digestion.**—In the three normal persons examined the arterial pressure rose after a meal but then, after from fifteen to forty-five minutes, it

dropped to below normal. Then the pressure rose again and ran up higher than normal by the third hour. He analyzes the different elements of the food liable to be responsible for these fluctuations. The initial hypertension seems to be due exclusively to the distention of the stomach. and it is more marked the larger the amount eaten and drank. The secondary hypotension corresponds to the phase of gastric secretion; the hypotension thus is more marked after foods that stimulate gastric secretion, strongest with salt and meat. weakest with milk. briefly transient with water and macaroni. The secondary hypertension corresponds to the distention of the intestine and the plethora in the blood. It is proportional to these, to their irritating action on the vessels and the rapidity of their elimination. The above facts demonstrate the necessity for avoiding large meals and ingesting much liquid when the arterial pressure is already considerable. Another lesson taught is that the secretion of hydrochloric acid should be reduced as much as possible. The third practical conclusion is that salty foods. alcohols and all stimulants should be avoided by such patients. especially by those with atheroma or chronic kidney disease. In this group the phase of tardy hypertension is particularly pronounced.

Archives des Maladies de l'App. Digestif, Paris

February, VII, No. 2, pp. 61-120

46 *Operative Treatment of Gastric Cancer; Sixty-Nine Cases. G. Faroy.
47 *Diabetes in Course of Acute Partial Pancreatitis. Norero.
48 Acute Infectious Colitis in Adults. A. Cade.

46. Gastric Cancer.—Faroy has reexamined recently sixty-nine patients given operative treatment before 1907 for malignant gastric disease. Although none seemed radically cured by the operation yet long survival was realized in a number of cases, the patients living three or four years afterward in fair condition. This occurred in 66 per cent. of the nineteen cases of malignant degeneration of a gastric cancer. The cancer can develop only slowly in old ulcer tissue. The outcome was less favorable in the cases without a history of a gastric ulcer; only 33 per cent. in this group survived for more than a year.

47. Diabetes from Pancreatitis.—Diabetes developed in the course of an acute destructive inflammatory affection of the pancreas in a man of 41. a hard drinker. Necropsy showed old cirrhosis of the liver and pancreas. but the glycosuria had come on only after the acute hemorrhagic pancreatitis had developed. It proved fatal. Norero compares the case with similar ones on record. emphasizing that even for the milder forms of diabetes some pancreatic derangement may often be incriminated.

Archives de Médecine des Enfants, Paris

March, XVI, No. 3, pp. 161-240

49 Acute Colitis in Children. V. Hutinel and P. Nobécourt. To be continued.
50 Chlorotic Type of Anemia in Children. M. de Biehler.
51 Sarcoma of Ovary in Infant. A. Lesage and Girault.

Journal de Médecine de Bordeaux

March 2, XLIII, No. 9, pp. 129-144

52 The Part Played by the Lipoids in Biology and Therapeutics. P. Mauriac.
53 Complex Aphasia and Parietal Syndrome with Necropsy. H. Verger and Desqueyroux.

Lyon Chirurgical, Lyons

March, IX, No. 3, pp. 233-350

54 *Malignant Chorio-Epithelioma; Six Cases. A. Pollosson and H. Violet.
55 *Combined Operation for Cancer of the Rectum. (Résultats immédiats et éloignés de l'opération combinée dans le cancer du rectum.) A. Chalier and E. Perrin. Commenced in No. 2.
56 Palliative Operations for Cancer of Lower Bowel. (De l'insuffisance de l'anus caecal pour assurer en permanence la vidange du gros intestin dans les cancers occlusifs du rectum et de l'S iliaque.) H. Muller.
57 *Operative Treatment of Gastric Crises. (A propos des opérations rachidiennes chez les tabétiques.) J. A. Sicard. (L'opération de Franke et l'opération de Foerster dans les crises viscérales du tabes.) R. Leriche.

54. Chorio-Epithelioma.—Pollosson and Violet have encountered six cases in the last three years and report them in detail. These are the first that have been noted at Lyons since 1894. This malignant growth never occurs without a preceding pregnancy, usually a mole pregnancy. It spreads exclusively by way of the blood-vessels, the veins; the lymphatics are rarely if ever invaded. Metastases are frequent, especially in the lungs, but they have also been encountered in the spleen. liver, kidney, brain and vagina. In one of their cases a nodule in the vagina first cleared up the diagnosis. In some cases the symptoms from the metastasis were the first to be noted. Hemoptysis, pulmonary symptoms, uncontrollable vomiting. mental derangement, hemiplegia—these have been observed from the metastasis when there were no symptoms on the part of the uterus. Phenomena of this kind after a childbirth. miscarriage or mole should suggest the possibility of a chorio-epithelioma with early metastasis. In the majority of cases, however. hemorrhage is the first symptom. If microscopic examination is not made, the chorio-epithelioma is liable to escape detection or it may be taken for a simple polyp. The prompt recurrence of the polyp is typical but if the patient is not seen by the same medical attendant each time the new polyp may be ascribed to an incomplete exploration at the other times. In one of the cases reported, the supposed placental polyp recurred three times in the course of three months. Treatment can be only operative, preferably by abdominal hysterectomy; in one of the cases reported two metastatic nodules were found in the ligaments. Of the five patients operated on, all are living, one after five years, the others after three and four and one after twenty years. Four of the patients were between 22 and 29 and all but one had borne one child before; another was 50, a vii-para, and one 43, a iii-para.

55. Cancer of the Rectum.—Chalier and Perrin state that the mortality of the combined operation for cancer of the rectum in 208 cases they have compiled from sixteen clinics, has ranged from 16.66 to 69.23 per cent. The larger size of the female pelvis renders the outlook for women better both at the time and later. The principal complication is from infection, and the progress of technic will improve conditions in this respect. Of 125 patients followed to date, 16.8 per cent. have been permanently cured for over three years (15 of 55 women; 6 of 68 men). The combined operation was followed by recurrence in only 19.48 per cent. of 77 patients traced for more than three months. This is a much better showing than with other methods. Goullioud has reported a recurrence after more than five years, and Rotter after over three years. In the six known cases of metastasis, it was in the liver in three, the lung or brain in the others. In all the cases in which the sphincter was preserved there were no functional disturbances, not even when the coccyx and last sacral vertebra had been sacrificed.

57. Operative Treatment of Gastric Crises.—Sicard declares that Franke's operation is illogical because it does not really act on the spinal ganglion nor on the posterior roots, while it becomes dangerous if we attempt to extract the ganglion by the external route. Guleke's operation permits escape of the spinal fluid and possibility of infection of the meninges. The operation Sicard here advocates anew seems to him superior to other technics for various reasons. He ligates in the epidural space the posterior and anterior roots together, after which they are severed, with or without removing the ganglion at the same time.

Leriche has applied Franke's operation in five cases and found it entirely harmless when properly done while it is not illogical and it may answer the purpose, but its lack of precision is a drawback. The method may be indicated in the debilitated, but under other conditions he advocates intradural severing of the roots. He has done this extradural in four cases, twice in tabetics, once for Parkinson's disease and once for zona. He severed in these four operations twenty-three of the posterior roots; the operation was simple and easy in one case but in the others it caused severe hemorrhage, interfering with the operation and liable to permit infection of the meninges. Since then he does the operation intradural and regards this an improvement in the technic.

Presse Médicale, Paris

March 1, XXI, No. 18, pp. 165-176

58 Family of Dwarfs from Defective Development of Cartilage. (Nanisme familial. Mésomélie et brachymélie métapodiale symétrique.) Bertolotti.
59 *Technic for Injection of Neosalvarsan. P. Ravaut.

March 5, No. 19, pp. 177-184

60 Technic for Subcutaneous Injection of Quinin. G. H. Lemoine.
61 Toxic Action of Glandular Secretions as Factor in Syndrome of Ileus. H. de Gaulejac.

March 8, No. 20, pp. 185-196

62 Arrest of Development Limited to the Skull and Scalp. E. Bonnaire and G. Durante.
63 *Simple Serum from Animals in Surgery and Therapeutics. H. Nolhia.

59. **Technic for Injection of Neosalvarsan.**—Ravaut states that sodium chlorid acts on this drug and consequently should not be injected with it. If a little neosalvarsan is dissolved in plain distilled water and other specimens in salt solutions of varying strengths, the solution with distilled water alone will remain permanently limpid while the solutions with salt will grow turbid in twenty-four hours. He consequently avoids the use of sodium chlorid, and has found that the drug will not lake the blood-vessels if it is in a concentration of 10 c.c. of distilled water for 0.45 or 0.60 gm. of neosalvarsan, or in 15 c.c. of distilled water to 0.75 and 0.9 gm. of the drug. These proportions have been tentatively arrived at and have been found the best for intravenous injection of neosalvarsan in his experience. He commences with the smallest dose, increasing to the largest mentioned above. The injections are made at eight-day intervals. Some of his patients were given up to six injections in the same vein but no induration followed.

63. **Simple Serum in Treatment.**—Nolhia reviews the history of the use of non-specific simple serum from animals to combat hemorrhage and infections, both by local application and by subcutaneous or intravenous injection. It favors the coagulation of the blood, stimulates the leukocytes and promotes their diapedesis while it has a bactericidal action. R. Petit asserts that it is not necessary for the serum to be fresh for local application, and that heating it to 56 C. suspends certain qualities which might be injurious. It can be used in the form of a dry powder, dissolving it when needed in ten times its weight of physiologic salt solution. In this form it seems to be particularly useful for burns after they have been cleansed, rinsed with hydrogen dioxid and then with boiled saline. The burned region is then covered with several thicknesses of gauze dipped in horse-serum, heated; over this two or three compresses moistened with saline, then oiled silk and cotton. This dressing is changed at first every twenty-four hours. The oiled silk can be discarded if the epidermis becomes macerated. Later the serum is replaced by dusting with desiccated serum. In treatment of hemorrhage, the desiccated serum is particularly useful for all except hemorrhages from injury of an artery. In treatment of hemorrhage by subcutaneous or intravenous injection, the serum must be fresh, not heated. There is no fear of trouble at the first injection or soon after, but if there has been an interval of fifteen days it is better to test the sensitiveness by a tentative injection of 1 or 2 c.c., or 5 c.c. at most, in the loose cellular tissue, extremely slowly. If the patient shows the least disturbance from this, nausea, distress, more rapid pulse or lipothymia, it is better to refrain from the injection. The fear of anaphylaxis imposes great caution in injecting fresh serum for its hemostatic action, especially in hemophilia. Weil, who has made a special study of this subject, found that human serum, horse, rabbit and beef serum were equally effectual in this line, but that beef serum sometimes induces briefly transient accidents. Antitoxin might be used if quite fresh, but simple serum answers the purpose. Hemopoietic serum is especially useful in the anemia following severe hemorrhage; this is serum taken from animals after repeated venesection, their blood being thus in active regeneration. (See Editorial in THE JOURNAL, Oct. 26, 1912, p. 1549.)

Semaine Médicale, Paris

March 12, XXXIII, No. 11, pp. 121-132

64 Treatment of Fracture of the Patella. F. Lejars.

Beiträge zur Geburtshilfe und Gynækologie, Leipsic

XVIII, No. 1, pp. 1-162. Last indexed Nov. 23, 1912, p. 1926

65 *Removal of Cerebellum in Case of Congenital Occipital Hydrencephalocele. R. Mees.
66 Symptomatology of Rachitis and Osteomalacia in Japan. M. Ogata.
67 Double Monster. (Dicephalus tribrachius.) A. Hajoerle.
68 Unusual Forms of Contracted Pelvis. (Einige seltene Formen von engem Becken.) A. Mayer.
69 Active Measures in Febrile and Septic Abortion. Y. Kasashima.
70 "Twilight Sleep" in General Anesthesia. (Ueber den Pantopon-Scopolamindämmerschlaf.) Y. Kasashima.
71 The Solidity and Elasticity of the Abdomen. (Aggregatzustand—Elastizität und Festigkeit des Bauches.) H. Sellheim.
72 Gynecology and Psychiatry. (Eierstocks-Uteruskrankheiten und Psychopathien.) L. M. Bossi.

65. **Removal of Cerebellum.**—The tumor at the back of the head was as large as the head itself but the child was apparently normal otherwise. The second day after birth the hydromeningocele was removed and with it the cerebellum and vermiform appendix which projected into the tumor and had evidently suffered from the compression to such an extent as to render recuperation impossible. The floor of the fourth ventricle was exposed by the operation. The child nursed vigorously after the operation and did not seem much the worse for it. The temperature ran up to 40.5 C. several times in the first three days but then dropped to normal. The infant vomited twice the third and fourth days and for twelve days in the eighth and ninth weeks. Other disturbances attributable to the loss of the cerebellum are nystagmus, lack of corneal reflex action and a tendency to hypertonicity of the legs. Recurring hydrocephalus required tapping four times, but this has not been necessary since for nine months. The child is developing slowly; it cannot sit up nor stand yet at the age of 15 months. Mees has found seventy-five cases of occipital encephalocele on record. The list includes four with hernia of cerebellum, all cured by operative treatment. In eight cases no operation was attempted and the children all died. In nine cases the children were born dead. In fourteen cases the encephalocele contained other parts of the brain.

Berliner klinische Wochenschrift

March 3, L, No. 9, pp. 381-428

73 *Operative Treatment of Nephritis. (Beitrag zur Chirurgie der Nephritiden.) A. Pousson.
74 *The Kidneys in Eclampsia. (Ueber die Schädigung der Niere bei der Eklampsie.) A. Zinsser.
75 *Resection of Stomach; 157 Cases. S. Weil.
76 *Influence of Sequestration of Venous Blood on the Pulse in Heart Disease. (Demonstration der Wirkung der Venenstauung auf die Pulskurven Herzkranker.) C. S. Engel.
77 *Coagulation by Electricity as Adjuvant in Operative Treatment of Cancer. (Die Elektrocoagulation bei der chirurgischen Behandlung des Krebses, speziell des Gebärmutterkrebses.) Abel.
78 Chemical Action of Thorium X on Organic Substances, Especially Uric Acid. W. Falta and L. Zehner.
79 The Active Principle in the Biochemical Reaction to Radiotherapy. G. Schwarz.
80 Internal Secretion and the Nervous System. A. Münzer. Commenced in No. 7.
81 To Improve Instruction in Midwifery. (Vorschläge zur Verbesserung des neuen preussischen Hebammenlehrbuchs.) C. Holste.

73. **Operative Treatment of Nephritis.**—Pousson used to teach that operative treatment of acute toxic nephritis could not benefit on account of the rapid destruction of epithelium, but recent experimental research has converted him to the view that decapsulation and nephrotomy may alter conditions to such an extent that the still intact elements may proliferate and vicariously substitute the destroyed patches. In twenty-six cases of acute nephritis there was no mortality in the group of eleven in which the disease had not reached the phase of suppuration; in the other fifteen there were two operative and two later fatalities. The intensity of the fever and impairment of the general condition are direct indications for

operative measures when with oliguria there is much albuminuria and numerous leukocytes and casts in the urine. For acute nephritis as well as for the chronic he advises nephrotomy. This relieves the pressure inside the organ from the proliferation processes in the canaliculi, blood-vessels and connective tissue inside of the inelastic capsule. The nephrotomy further permits a copious outflow of blood which not only relieves the kidneys and regulates diapedesis but clears out the obstructions in the tubuli and washes away toxins. Kneading of the kidney may help in this. The incision also permits the calices and pelvis to be rinsed out with a weak antiseptic solution. The drainage, which is indispensable, continues the good work. Nephrotomy thus provides for relief of pressure, antisepsis and drainage, while decapsulation answers only the first of these indications. In three cases of chronic painful nephritis he combined decapsulation and nephrotomy with the best of results. One of these patients has not had the slightest disturbance during the seven years since. He tabulates twenty-four cases of chronic nephritis in which the fatal outcome was postponed by the operation for from two to over fifteen months. The survival was longest in the cases with edema alone; it was less when the edema was accompanied by uremia, and shortest with uremia and oliguria without edema. Sixty-six patients survived to date of writing, eight apparently cured, eleven very much improved, twenty-three much improved and only six showing no improvement. The eight cured cases were in patients with uremia alone, edema plus uremia, edema plus oliguria, or uremia plus oliguria. Very great improvement was observed in eleven cases in these various groups, as also in twenty-three with one of the six types of Bright's disease. The cases showing no improvement were in the groups with edema alone, uremia alone, or both combined. Myocarditis contra-indicates any operation for nephritis as the patient is liable to die suddenly either from the anesthetic or the strain on the organism. On the other hand, hypertrophy of the heart with powerful apex beat and gallop rhythm should urge the operation. By reducing the pressure in the kidney, the task of the heart is rendered lighter. In the total 164 cases of operative measures in nephritis which he has compiled, decapsulation alone was done in 153. Even when the chronic nephritis is not accompanied by severe symptoms but still interferes with ordinary social and business life, he advocates surgical measures after failure of the internal; particularly in that phase of Bright's disease when the urine does not contain much albumin or casts but the urea and the urates are constantly decreasing and there is cachexia manifested by pallor, slight puffiness of the face, fleeting edema of the legs, much weakness, dyspnea on slight effort and low red corpuscle count.

74. **The Kidneys in Eclampsia.**—Zinsser is convinced that the kidneys suffer only secondarily in eclampsia. Measures to act on the kidney hence cannot have an essential influence on the disease although disturbance in the kidney functioning aggravates the general condition. From this point of view the elimination of salt in the urine is important for the prognosis. When the salt content suddenly and continuously drops to a fraction of the normal figure, the prognosis is grave while a medium salt content even with a clinically severe syndrome permits hope of a favorable outcome.

75. **Resection of the Stomach.**—Weil states that during the last five and one-half years 800 operations on the stomach have been done in Küttner's service. In 149 cases this was a typical resection of the stomach. In fourteen cases of callous ulcer one patient died of pneumonia, another of gangrene of the lung and the third of hemorrhage from a second ulcer in the stomach. The remaining eleven patients are entirely well to date; the general health and the functioning of the digestive tract did not seem to be affected at all by the resection of the stomach. Of the 104 patients with cancer who survived the operation and its effects, forty are still living; eight for more than three years. This gives 2 or 3 per cent. permanently cured of the total patients with gastric cancer who were given treatment at the clinic between 1907 and 1909. Comparison with previous decades shows that the number of permanent cures is about the same while the proportion of patients with operable gastric cancer has grown less. Progress can be only along the lines of an earlier diagnosis.

76. **Sequestration of the Blood in Heart Disease.**—Engel gives a number of tracings taken before, during and after the blood had been sequestrated in the arms and legs by compression with two large pneumatic cuffs. The pressure was applied only enough to arrest the venous blood while the arterial blood could still flow into the limbs. The tracings show a remarkable effect on the heart, giving it a chance to rest and recuperate.

77. **Electric Method of Excising Cancer.**—Abel calls attention to the advantage of cutting the tissues with the de Forest electric needle which cuts quicker than the knife and modifies the tissues so that they are coagulated instantaneously, thus closing the blood and lymph vessels as they are cut and hence preventing any absorption into them of cancer-cell tissue. He summarizes his principle in the statement that the carcinoma should be killed before removal, that is, be coagulated through and through with the electric current before we touch it. This diathermy preliminary to the excision lengthens the operation only slightly but it possibly may prove an effectual barrier against recurrence in the wound.

Deutsche medizinische Wochenschrift, Berlin

March 6, XXXIX, No. 10, pp. 441-488

82 *Syphilitic Disease of the Aorta. T. Deneke.
83 Lupus of the Nose. (Schleimhautlupus der Nase.) Walb.
84 *Typhoid Bacilli on the Tonsils. F. and L. Schütz.
85 *Tuberculosis in Childhood. A. de Besche.
86 *Technic for Microscopic Study of Tubercle Bacilli. (Verhütung der mikroskopischen Fehldiagnose der Tuberkelbazillen.) H. Bontemps.
87 *Toxicity of Urine in Acute Infectious Diseases. (Weitere Mitteilungen über die Giftigkeit des Harns bei Masern und anderen Infektionskrankheiten.) H. Aronson and P. Sommerfeld.
88 Local Anesthesia for Operations on Sternum. (Ueber Lokalanästhesie bei Operationen am Brustbein.) H. Harttung.
89 Indications for Arthrodesis. W. Böcker.
90 *Operative Treatment of Nephritis. (Operative Behandlung der Nierenentzündung.) P. Herz.
91 *Latent Erysipelas. S. S. S. Blumenfeld.

82. **Syphilitic Disease of the Aorta.**—Deneke reviews his experiences with 173 cases. About half of the patients admitted syphilis and one had signs of inherited syphilis. The shortest period between infection and the aorta disease was five years; the longest, forty-four years; the average about twenty. No occupation or age seemed to be particularly affected. In fifty-three cases the nervous system was also investigated and disease of the nervous system was evident in 40 per cent. The mortality was large, some of the patients succumbing suddenly, others after a long course of improvements and exaggerations. In forty-six cases under observation for some time, the present condition is unmistakably the more favorable the more vigorous and persevering the specific treatment to which the patients had been subjected. In this group is one workingman of fifty-one who had severe pulmonary edema at first but improved under treatment until he has regained full working capacity. Another patient is a merchant of 38 whose left radial pulse had been imperceptible for years but after several courses of treatment, the pulse returned. This group also includes a number of patients whose previous sickly aspect has changed to that of health as their seriously demoralized myocardium recuperated in surprising fashion. In his service at the public hospital at Hamburg, when inunctions were impracticable he gave Ricard's blend of red mercuric iodid and sodium iodid. With this formula the dosage of mercury is so small that the first course should last three months. He approves of Höfler's method of giving iodid alone when the Wassermann is negative; if positive, he associates mercury with it. Salvarsan cannot be given to patients with serious aortitis and even with good compensation great caution is necessary. Deneke seldom gave over 0.2 or 0.4 gm. and always with other measures at the same time. His personal impression is that a patient with a positive Wassermann on starting treatment is never sure against the progress of his disease until the Wassermann reaction has become permanently negative. This may require years or may never be attained; the best we

can do then is to order as many courses of treatment as possible. Transient benefit is easy to realize in these cases, but permanent success is difficult. We must impress patients with the seriousness of syphilitic aorta disease and the necessity for vigorous treatment through months and years. The trouble is that the patient feels so much improved under a single course that he is heedless of returning for further treatment and he hears outsiders talk of "injury from mercury," so he does not return for further treatment until irreparable lesions are installed.

84. **Typhoid Bacilli on the Tonsils.**—Schütz examined the tonsils of thirty-seven patients, including twenty-three with unmistakable typhoid. Seventy-one tests were made of smears from the tonsils but typhoid bacilli could not be cultivated from the tonsils in any instance.

85. **Tuberculosis in Children.**—De Besche inoculated animals with material from the lymph-nodes of 134 child cadavers; in 39 per cent. there were clinical signs of tuberculosis. Positive results were obtained in from 24 to 50 per cent., increasing from the first to the fifth years, and in 58.8 per cent. of the children between 5 and 15. In three cases of the fifty-two giving positive findings the bacilli cultivated were of the bovine type; in one of both human and bovine and in forty-five of the human type.

86. **Errors to Avoid in Examining for Tubercle Bacilli.**—Among other points Bontemps gives illustrations of some bacteria-like and acid-proof bodies which simulated tubercle bacilli but which were finally discovered to be scraps from disintegrated lycopodium spores. The newer sputum technics break up these spores very readily. Lycopodium is frequently used to dust pills and it is easily inhaled by druggists handling it or it is ingested with the pills. It is probable that there are other substances which leave detritus resembling tubercle bacilli in the body fluids. Cork cells and honey-comb wax are acid-proof. He urges search for other substances possessing this acid-proof property and liable to mislead in microscopic examination of urine, sputum, blood, milk, etc.

87. **Toxicity of the Urine in Infectious Diseases.**—Further research has confirmed the unusual toxicity of the urine in measles. The standard limit for toxicity is accepted as the fatal action of 2 c.c. of neutralized and warmed urine injected into a vein in a guinea-pig weighing from 180 to 200 gm. The present article reports the findings in 146 cases of various acute infectious diseases with 500 tests on animals. Besides measles, varicella, fourth disease and serum exanthem are accompanied by extremely toxic urine, while scarlet fever is not. This test may be found useful in differentiating scarlet fever.

90. **Operative Treatment of Nephritis.**—Herz has found decapsulation of the kidney or slitting the kidney of great efficacy in kidney colic and essential hemorrhage from the kidney, anuria or uremia, with chronic and acute nephritis, but these operations, although relieving symptomatically, were never known to bring about a cure.

91. **Latent Erysipelas.**—Blumenfeld describes two cases which show that erysipelas may develop in the depths and not reach the surface for several days.

Jahrbuch für Kinderheilkunde, Berlin

February, LXXVII, No. 2, pp. 125-241

92 Elimination of Acetone in Urine of Young Children. (Die Acetonausscheidung im Urin gesunder und spasmophiler junger Kinder.) E. Liefmann.
93 Clinical Availability of Acetone Reaction in Children. (Ueber die klinischen Verwendbarkeit der Acetonreaktion in der Kinderpraxis.) G. von Bitter.
94 Whey in Treatment of Catarrhal Enteritis Resembling Dysentery. (Anwendung der Molketherapie bei ruhrartigen Darmkatarrhen und ihre Erfolge.) E. A. Frank.
95 The Skin Reactions in the Exudative Diathesis. (Hautreaktionen bei Kindern mit exsudativer Diathese.) E. Rachmilewitsch.
96 Rupture of Umbilical Cord. (Ueber Nabelschnurbruch.) W. Usener.
97 Postdiphtheric Facial Paralysis; Recovery Under Antitoxin. (Postdiphtherische Facialislähmung.) S. Wolff.
98 Recurring Mumps. (Wiederholte Erkrankung an Parotitis epidemica.) J. K. Friedjung.

Medizinische Klinik, Berlin

March 2, IX, No. 9, pp. 319-356

99 Internal Anthrax and Workmen's Compensation. (Innerer Milzbrand als Unfallkrankheit.) L. Lewin.
100 *Oxygen Under Pressure in Treatment of Asphyxia in the Newly Born. (Die Sauerstoffdruckatmung zur Bekämpfung des Scheintods der Neugeborenen.) F. Engelmann.
101 *Decapsulation of the Kidney. (Zur einseitigen und doppelseitigen Nierenenthülsung.) M. Penkert.
102 Contagiousness of Latent Syphilis. (Zur Infektiosität der latenten Lues.) M. Müller.
103 Factors Which Enhance Potency of Drugs in Combination. (Ueber wirkungspotenzierende Momente in Arzneigemischen.) W. Heubner.
104 Cure of Woody Phlegmon Under Serotherapy. (Fall von Holzphlegmone mit Antistreptokokkenserum Aronson behandelt.) W. Thedinga.
105 Roentgenoscopy in Diagnosis of Enlarged Bronchial Lymph-Nodes. (Zur Röntgendiagnostik der Bronchialdrüsenvergrösserungen.) S. Engel.

100. **Oxygen in Treatment of Asphyxia Neonatorum.**—For nearly three years Engelmann has been reviving the deeply asphyxiated infants in his service by means of oxygen under slight pressure with a safety valve regulator. A mask fits over the face; the oxygen accumulates in a rubber balloon into which the mask opens. He uses the Tiegel mask for the purpose, one tube bringing the oxygen into the balloon, another tube conveying the excess and the expired air to a metal tube which stands upright in a vial filled with water. By raising and lowering the metal tube the pressure in the entire system is regulated. In many cases the effect of the oxygen was most striking. The child is wrapped in warm blankets and the mask is applied with the lower jaw drawn forward. Then at regular intervals the thorax is compressed with both thumbs, which expels the air while inspiration follows from the forcible entrance of the oxygen under pressure. As a rule, the skin soon grows pink and the child begins to breathe naturally unless there is some injury of the brain from hemorrhage or pressure. In one unusually severe case described at length, no result was obtained for an hour and a quarter; by the end of another fifteen minutes the child was pink and breathing regularly. It died twelve hours later and extensive subdural hemorrhage was found at necropsy. This same method was applied, with a larger-sized mask, to an adult with paralysis of respiration after stovain spinal anesthesia. The apparatus worked finely during the hour required before danger was past. The method might also prove useful in embolism or severe pneumonia. He contrasts the method with Schultze swinging, pointing out its advantages when there are contra-indications to the swinging (premature birth, injury of the brain or fracture). He adds that as we are unable to exclude with certainty complications on the part of the brain in severe cases of asphyxia, it seems wiser to apply this method in every case of severe asphyxia without exception, as the simplest and most harmless means of expanding the lungs and ensuring a regular supply of oxygen.

101. **Decapsulation of the Kidney.**—Penkert reports two cases in which the benefit from decapsulation was most striking after failure of all other internal measures. The first patient was a woman of 34 who had long been under treatment for relics of left perinephritis which had evidently developed from an abscess following an injection of fibrolysin. The decapsulation cured her and there has been no further trouble during the three years since. The second patient had pregnancy nephritis in the severest form with an eclamptic convulsion during delivery and albuminuria over 30 per thousand. After the failure of internal measures, decapsulation of both kidneys, four weeks after delivery, was followed by marked improvement, the albumin dropping from 22 to 1 per thousand, although it rose again temporarily afterward, but it disappeared permanently the third month.

Monatsschrift für Kinderheilkunde, Berlin

XI, No. 10, pp. 455-544

106 Connection Between Face Presentation and Obstetric Paralysis. (Zusammenhang von Gesichtslage und spontaner infantiler Geburtslähmung.) L. Kaumheimer.
107 Manifestations of the Exudative Diathesis in the Mucosa of the Urogenital Apparatus; Forty Cases. C. Beck.
108 Differentiating Reaction in Cow's Milk and Human Milk. (Eine Reaktion zur Unterscheidung von Kuh- und Frauenmilch.) Bauer.

109 Utilization of Gruels in Infants. (Ueber die Ausnützung von Mehl- und Griessbreien beim Säuglinge.) F. Pfersdorff and K. Stolte.

110 Tuberculin in Diagnosis of Tuberculosis in Children. (Zur Tuberkulindiagnostik im Kindesalter.) N. Stricker.

Münchener medizinische Wochenschrift

March 4, LX, No. 9, pp. 449-504

111 *Technic for and Experiences with Operative Treatment of Pulmonary Tuberculosis. (Welche Formen der thorakoplastischen Pfeilerresektion sind je nach Ausdehnung und Schwere der Lungenerkrankung zu empfehlen?) M. Wilms.

112 Derangement of the Knee. (Zur Behandlung der inneren Verletzungen des Kniegelenks.) O. Vulpius.

113 Influence of Thorium X on Seedlings. (Einfluss von Thorium X auf keimende Pflanzen.) F. Kahn.

114 *Prophylactic Serotherapy in Tetanus. K. Kolb and K. Laubenheimer.

115 Technic for Bacteriologic Diagnosis of Diphtheria. (Erfahrungen mit der Conradi-Trochschen Tellurplatte zum Diphtherienachweis.) G. Wagner.

116 *Orthostatic Albuminuria and Tuberculosis. (Ueber orthotische Albuminurie und ihre Beziehungen zur Tuberkulose nach Untersuchungen bei Hautkranken, insbes. bei Hauttuberkulose und Syphilis.) W. Arnold.

117 The Protective Ferments. (Zur Frage der Spezifizität der Schutzfermente.) E. Abderhalden.

118 Injuries of the Toes and Insurance Against Accidents. (Die Verletzungen und traumatischen Erkrankungen der Zehen und ihre Begutachtung in Unfallsachen.) C. Waibel.

119 Modified Technic for Roentgenotherapy. (Vierjährige Erfahrungen mit unterbrecherlosen—Gleichrichter—Röntgenapparaten und einige wichtige Neuerungen an denselben. Zugleich ein Beitrag zur Frage der Apparatbeurteilung durch den Arzt.) F. M. Groedel.

120 Medical Impressions of America. (Hygienisches aus Nordamerika.) R. Müller. Commenced in No. 8.

111. **Thoracoplastic Treatment of Pulmonary Disease.**—Wilms gives a number of illustrations to show the preferable technic for permitting compression of the lung by an operation on the ribs.

114. **Prophylactic Serotherapy of Tetanus.**—Four severe cases of crushing of the hands in a threshing machine came to treatment in the course of five days. Tetanus antitoxin was injected at once and tetanus did not develop in any instance but in one of the cases tetanus germs were cultivated from the wound. There seems to be little doubt that the prophylactic injection must have actually warded off tetanus in this case. There is a similar case in the literature in which a fire-arm wound of the orbit contained tetanus bacilli but no tetanus developed after the prompt serotherapy.

116. **Orthostatic Albuminuria and Tuberculosis.**—Arnold examined forty-four patients with chronic tuberculous disease of the skin, eight with psoriasis and thirty-three with syphilis to determine the prevalence of orthostatic albuminuria in these conditions. The findings were negative in the cutaneous affections but in early and still untreated syphilis orthostatic albuminuria was encountered almost as frequently as in the early stages of tuberculosis. The discovery of orthostatic albuminuria is therefore not to be regarded as a sign of incipient tuberculosis unless syphilis can be excluded. He adds that orthostatic albuminuria seems to be the manifestation of a chronic infection or intoxication and is not of specific import.

Petersburger medizinische Zeitschrift

February 28, XXXVIII, No. 4, pp. 43-55

121 Treatment of Sinusitis. (Zur Behandlung der eitrigen Erkrankungen der Nebenhöhlen der Nase.) A. von zur Mühlen.

122 Sexual Fetishism. V. Nordmark. Commenced in No. 3.

Therapeutische Monatshefte, Berlin

March, XXVII, No. 3, pp. 177-256

123 Treatment of Gonorrhea and Its Complications. C. Bruck.

124 Medicinal Treatment of Cardiac and Renal Dropsy. (Ueber Kombinationswirkung von Medikamenten bei der Behandlung der Herz- und Nierenwassersucht.) H. Strauss.

125 *Castor Oil in Appendicitis. (Zur Rizinusbehandlung der Blinddarmentzündung.) Sorge.

126 Indications for the Wearing of a Monocle Instead of Spectacles. R. Halben.

127 Salts from Mineral Waters. (Ueber Quellprodukte.) O. Rössler.

128 Experimental Organotherapy. (Ueber die Wirkung von Pituitrin und Histamin an der isolierten Gebärmutter.) H. Fuhner.

129 Reform in Advertising Medicinal Articles. (Wünsche zur Reform des Arzneivertriebes.) J. Herzog.

125. **Castor Oil and Appendicitis.**—Sorge states that in his experience the cases with perforating lesions in the appendix were invariably those in which castor oil had been taken not long before, nearly all the patients asserting that soon after taking the castor oil the pains had set in with great intensity. He gives the details of ten such cases out of a much larger experience and emphasizes the importance of caution in giving laxatives even when the case does not suggest actual appendicitis. It is particularly imperative to beware of danger from this source in the country, where hospitals are not so easy of access. In a hospital, castor oil may be given to confirm the diagnosis in chronic and subacute cases. If the condition becomes aggravated, an operation is indicated at once.

Wiener klinische Wochenschrift, Vienna

February 20, XXVI, No. 8, pp. 281-316

130 *Psychotherapy for Children. (Ueber psychische Behandlung im Kindesalter.) F. Hamburger.

131 *Dyspnea from Spasmodic Contraction of the Musculature of the Bronchi in the Spasmophilic Diathesis. (Ein noch nicht beschriebenes Krankheitsbild der spasmophilen Diathese.) R. Lederer.

132 Vital Transformation of Structure of Transplanted Fascia. O. M. Chiari.

133 Lipoids in the Urine. (Ueber ein Phosphatid im menschlichen Harn.) L. Hess and B. v. Frisch.

134 The Meiostagmin Reaction. (Verwertbarkeit der Azetonextrakte bei der Meiostagminreaktion. S. Zarzycki. (Zur Meiostagminreaktion.) R. Köhler and A. Luger.

135 *Disturbances from Adhesions Following Pleurisy. (Entstehung und Bekämpfung der konsekutiven Störungen bei Pleuraschwarte.) L. Hofbauer.

130. **Psychotherapy for Children.**—Hamburger is privatdocent for children's diseases at Vienna and has a service in the policlinic. His experience has convinced him that psychotherapy can be advantageously applied even to very young children in cases of neurasthenia resulting from a sense of injustice. Feelings wounded by real or fancied unjust treatment may in some children bring on actual neurasthenia. The neurasthenia in this case is amenable to psychotherapy as the causal treatment. Psychanalysis by the Freud method and efforts to wean the little patient away from brooding over his injury are the main reliance. Suggestion can be successfully applied to children 2 years old and upward; it may succeed in correcting abnormal conditions even during sleep, but it is particularly useful, he states, for the psychogenic complications and aggravation of organic affections. Here it serves to sift out the psychogenic disturbances from those of organic origin.

131. **Dyspnea from Spasm of Bronchial Musculature.**—Lederer has sometimes noticed in children with a tendency to spasmophilia disturbances in breathing, especially dyspnea during expiration. It generally proved fatal, in one case in twelve hours, in another in four days. There were signs of spasm of the larynx or general convulsions in some, and death occurred during these attacks or the children slowly suffocated to death, with the heart growing weaker. He has never seen a description of this slow type of fatal tetany. Dulness over the lungs and râles suggested pneumonia which had aroused the spasmophilia, hitherto latent in some of the cases, or that the spasmophilia had become complicated with pneumonia. Necropsy, however, showed the lungs free from all tendency to pneumonia, but atelectasia was pronounced at various points and emphysema at others. Examination of fifty-eight children with spasmophilia during the last year revealed this tendency to atelectasia in six. In two of the cases this was the only sign of the spasmophilia. The only plausible explanation of these findings is the assumption of spasmodic contraction of the smaller muscles of the bronchi. This would close the lumen of the bronchi, thus shutting off the alveoles from intake of air; the air already in them is absorbed, and atelectasia results.

135. **Disturbances from Pleural Adhesions.**—Hofbauer remarks that the general health may and often does suffer from the immobilization of the diaphragm by the adhesions and other changes left, as well as from the functional paralysis of the diaphragm liable after a pleurisy. Both the respiration and circulation suffer, and every effort must be made to correct conditions. He gives reasons and diagrams to explain the benefit from exercises to promote absorption and from lying on the

affected side, not the sound side. The diaphragm in these conditions is better able to make normal excursions on the lower side as the patient lies on this side. Another useful aid is in deep breathing exercises, breathing from the abdomen as the patient stands with the arms akimbo on the sound side, the other arm held out horizontally. During a slow deep inspiration the patient bends his trunk over on the sound side, raising at the same time the other arm straight over his head. He must breathe through his nose exclusively. To enhance the effect the trunk is twisted as he bends over. This exercises the thorax, the aim being to stretch and mobilize the intercostal spaces and the diaphragm. The hip of the sound side is the pivot on which the trunk is twisted. The outcome of these exercises has been excellent in his experience, as he shows by a typical case, described at length, in a boy of 13.

Zentralblatt für Chirurgie, Leipsic

March 8, XL, No. 10, pp. 337-376

136 Paralysis of the Diaphragm After Anesthesia of Brachial Plexus. (Phrenicuslähmung bei Plexusanästhesie.) R. Sievers.
137 Local Anesthesia for Appendicectomy. (Die Anästhesierung der rechten Darmbeingrube bei der Operation der chronischen Appendicitis.) H. Fowelin.
138 Tincture of Iodin for Mucosa in Gastro-Intestinal Operations. (Zur Frage der Schleimhautjodierung bei Operationen am Magen-Darmtrakt.) J. Hohlbaum.

Zentralblatt für Gynäkologie, Leipsic

March 8, XXXVII, No. 10, pp. 329-368

139 Pituglandol Retards Delivery. (Zur Wirkung des Hypophysenextraktes.) F. Lieven.
140 *Reflex Tenderness with Inflammation of Female Genital Organs. (Reflektorische Schmerzempfindungen bei Druck auf den Plexus coeliacus bei entzündlichen Erkrankungen der weiblichen Geschlechtsorgane.) M. S. Alperin.

140. **Pain in Diagnosis of Inflammatory Conditions.**—Alperin comments on the way in which the subjective symptoms are usually neglected in favor of the objective. Snegirew has long been teaching the clinical importance of pain in gynecology, and Alperin in his service has made a special study of this subject in 309 cases. His method was to press with the index finger the umbilicus back to the spine as the patient lay on her back. Some of the women said as this was done it caused pain radiating to the stomach region, others to the pubis, others to the inguinal region, others to the sacrum, while others said that there was no pain except from the direct pressure of the finger. The statements in regard to the radiating pain were classified and compared with the diagnosis of conditions in the pelvic organs. It soon became evident that this radiation of the pain corresponded to certain specific abnormal conditions in the genital organs. When the pain radiated toward the epigastrium, the inflammatory process was concentrated in the uterine mucosa; toward the symphysis, in the peritoneum surrounding the uterus; when toward the inguinal region on one or both sides, the inflammatory process was in the adnexa; toward the sacrum, there was inflammation or venous hyperemia in the muscular tissue of the uterus. When there was no pain except under the finger, no trace of inflammatory processes could be found in the genital organs. In only 12 per cent. of the total 309 cases did the findings fail to confirm the information derived from the radiation of the pain. It seems evident that the pain is caused by the overfilling of the blood-vessels, while this distention of the blood-vessels is the result of abnormal conditions in the special innervation. As illustrations of this are cited the familiar facts that pain is sometimes felt in the eyes with sudden suppression of menstruation, and that the pain of dysmenorrhea can be relieved by painting with cocain the congested points in the lower turbinate bone. The pressure of the vessels on the nerves causes the pains, and soothing this spasm of the vasomotors restores normal conditions in the blood supply. Alperin gives the details of a few cases in which the findings were apparently contradictory, as in a case in which the pain radiated both to the stomach and pubis. According to his classification this would indicate inflammation in both the endometrium and perimetrium, but in reality the perimetrium alone was inflamed and the uterine mucosa was apparently sound. Study of the former history, however, revealed that there had been endometritis not long before, with leukorrhea. In another case the pain radiated to the left inguinal region; this would indicate disease in the left adnexa, but in fact there was merely an inflammatory process in the cervix and the case was recorded as contradictory. But here again the case history showed an inflammatory process in the left inguinal region after a long preceding childbirth. An interesting point is that in five cases with left salpingitis the pain radiated to both inguinal regions; this suggested that the inflammation had already spread to the other tube although there was nothing otherwise to suggest this at the time. We know that disease of one tube is frequently followed by involvement of the other; Kannegiesser has confirmed this on animals: Ligating and infecting one tube were soon followed by a similar infectious process in the other tube, conveyed probably by the lymph stream. Alperin presses his finger inward and a little upward, trying to reach the process at the 2—3 lumbar vertebra, where the sheath of the solar plexus lies. The patients were asked to describe the pain if they felt any, without suggesting any region, and each examination was done with the patient lying on her back, the legs flexed at hip and knee, the abdomen freed from all bands, and the test was applied by three physicians in turn to prevent any influence from the personal equation.

Zentralblatt für innere Medizin, Leipsic

March 8, XXXIV, No. 10, pp. 241-264

141 Myositis from Excessive Use of Group of Muscles Involved (Traumatische Myositis.) H. Rotky.

Gazzetta degli Ospedali e delle Cliniche, Milan

February 27, XXXIV, No. 25, pp. 257-264

142 Iodin for Sterilization of Skin. (Contributo clinico-statistico alla disinfezione della pelle con tintura iodica.) C. Gaetano.

March 4, No. 27, pp. 281-288

143 *Early Diagnosis of Pulmonary Tuberculosis. B. Nicola.

143. **Early Diagnosis of Pulmonary Tuberculosis.**—Nicola reviews his experience at the Turin preventorium where all the various methods for diagnosing have been systematically applied in hundreds of cases. The methods found most useful were Goldscheider's threshold percussion and the albumin reaction in the sputum—which was found constantly negative in simple bronchial catarrh and positive in chronic inflammatory conditions in the lungs and in cardiorenal insufficiency in over 200 applications of the test. He regards negative findings as excluding tuberculous infection. Other diagnostic measures found useful were the skin reaction (Pirquet), the intradermal reaction, and the subcutaneous test for adults, and Pottenger's method of systematic palpation.

Policlinico, Rome

March 2, XX, No. 9, pp. 289-328

144 *Radiotherapy of Cancer. (La Röntgenterapia degli epiteliomi cutanei.) G. Scaduto.

144. **Roentgenotherapy of Superficial Cancers.**—Scaduto thinks that there is no necessity for histologic distinctions between epitheliomas, but that it is important to distinguish between the superficial ones and those burrowing deep. He emphasizes the importance of excising the outer layers of the epithelioma so as to permit the rays to act on the deeper cancerous elements, which are the most dangerous from the point of view of recurrence. The best means of warding off recurrence is by periodical exposures to the roentgen rays, kept up indefinitely every forty or sixty days for years.

Riforma Medica, Naples

February 8, XXIX, No. 6, pp. 141-168

145 Experimental Immunization by the Mouth Against Cholera. (Immunizzazione delle cavie col nucleoproteide dei vibrioni colerigeni per la via gastrica.) V. de Bonis and P. Natale.
146 General Anesthesia by Intramuscular Injection of Ether. (Breve nota su di un caso di anestesia generale per mezzo di injezioni intramuscolari di etere.) G. Giordano.

147 Transient Albuminuria (Albuminuria transitoria determinata dalla separazione intravescicale delle urine.) L. Cocco.
148 Resistance of Arteries to Suppurative Processes. G. Palazzo. Commenced in No. 3.

February 15, No. 7, pp. 169-196

149 Pulsating Effusion with Pleurisy. (A proposito di un caso di pleurite destra, bloccata, pulsante.) T. Silvestri.
150 *Reduction of Abnormally High Arterial Pressure by Roentgen Exposures of Adrenals. (Contributo clinico alla radioterapia delle ghiandole surrenali in alcuni stati ipertensivi.) C. Quadrone.

February 22, No. 8, pp. 197-224

151 Vitality of Cholera Germs in Contact with Acids. (Vitalita del vibrione del colera a contatto con gli acidi.) D. Pane.
152 Kala-Azar in Southern Italy. (Leishmaniosi interna—kala azar—a Messina. Nuovi esempi clinici e sguardo riassuntivo.) G. Spagnolio.
153 Technic for Removing Gall-Stones in Common Bile Duct. (Per la coledocolitotomia transpancreatica.) G. Morone. Commenced in No. 7.

150. **Effect on Blood-Pressure of Exposure of *Adrenals* to Roentgen Rays.**—*Quadrone reports further research in this line.* His previous conclusions were confirmed by the negative results from roentgenotherapy in nephritis reported last year by Galausino (Abstr. in The Journal, Feb. 17, 1912, p. 525). This showed that the kidneys were not sensitive to Roentgen exposures, so Quadrone ventured to apply the rays systematically to the adrenals in five cases of *permanently* high blood-pressure. In four of the five patients the blood-pressure was materially reduced and the subjective condition much improved but no appreciable influence was apparent on morbid conditions in the heart and kidneys. His experiences confirm the reduction in the blood-pressure which is possible by exposures of the adrenals where previously the adrenals had been functioning to excess. The epinephrin disappeared from the blood after the exposures. His findings confirm in every respect those reported by Zimmern last year on the reduction of the blood-pressure under radiotherapy of the adrenals. They also confirm Decastello's report of the changes in the adrenals after exposures to the Roentgen rays. Of course it is only in a comparatively small proportion of the cases of excessive blood-pressure that excessive functioning of the adrenals is responsible for the hypertension. The finding of epinephrin in the blood suggests the possibility of this and explains the benefit from the exposures. Zimmern obtained a more or less pronounced reduction in the blood-pressure in fifteen of the sixteen patients thus treated.

Semana Medica, Buenos Aires

February 6, XX, No. 6, pp. 305-368

154 The Brownian Movements are Due to Microorganisms. A. L. Herrera.
155 Measurement of Hearing Capacity. (Acumetria. Sonidos extramusicales y limite superior acustico. Monocordio Struycken.) M. J. Rizzi.
156 Chemical Study of Ozone and of Water. (Apuntes de quimica.) V. Delfino.

Hospitalstidende, Copenhagen

March 5, LVI, No. 10, pp. 249-272

157 Manometer for Therapeutic Artificial Pneumothorax. (En ny Manometeranordning ved Pneumothoraxbehandling.) C. H. Würtzen.
158 Research on Secretion in the Stomach During Digestion. I. (Undersøgelser over Ventrikelsekretionen under Fordøjelsens Forløb. I.) J. P. Gregersen. Commenced in No. 9.

Norsk Magazin for *Lægevidenskaben*, *Christiania*

March, LXXIV, No. 3, pp. 289-440

159 *Pathogenesis of Blood-Borne Skin Disease. (Bidrag til belysning av de hæmatogene dermatosers særlig erythema nodosums patogenese.) E. Bruusgaard.
160 Further Research on Pepsin. (Nyere mavesaftundersøkelser.) A. O. [illegible]
161 Diplococci [illegible] and in Gasserian Ganglion in Case of Herpes Zoster of the Brow in Senile Dement. (Herpes zoster frontalis med bakteriefund i ganglion Gasseri.) A. Sunde.
162 Quack Practices and Tuberculosis. (Kvaksalveri mot tuberkulose.) S. Schmidt-Nielsen.
163 Fracture of Posterior Process of the Heel Bone. (Om brud av proc. posterior tali.) H. Wille.
164 *Relations Between Appendicitis and Gynecologic Disease. (Appendicit i forhold til gynækologiske lidelser.) H. Natvig.

159. **Pathogenesis of Blood-Borne Skin Disease.**—Bruusgaard reports two cases of nodose erythema in which the primary essential element was evidently *inflammation in the subcutaneous tissue in or around a vein.* There was a history of acute articular rheumatism in one and of syphilis in the other case. He knows of only two cases on record in which bacteria were found in the nodules. The data presented seem to show that nodose erythema belongs to the group of affections due to an attenuated pyemia. Bacteriologic and histologic research as early as possible is the only means to decide the question definitely and Bruusgaard urges early excision of a nodule for examination, especially in the cases complicated with serous effusions and joint troubles.

164. **Appendicitis in Connection with Gynecologic Disease.**—Natvig insists that appendicitis is far more frequent in women than is generally recognized, and that it often causes exclusively symptoms apparently of *genital origin.* It is also liable to induce functional and organic morbid conditions in the genitals as he shows by a number of striking examples. On the other hand, primary genital affections often involve the appendix. The abdominal route is preferable to the vaginal for operations on the genitals as it permits oversight of conditions in the appendix region. Incision on the median line is more instructive than in the side for appendicectomy as the genital organs can be examined better. He also advocates a laparotomy rather than the classic technic for the Alexander-Adams operation. He always removes the appendix when operating on the *internal genitals if there is anything in the aspect of the* appendix or the history of the case to suggest that the appendix is not entirely sound. Pankow found signs of appendicitis *in 66.66 of 150 women under treatment for gynecologic disease.* Petterson found unmistakable signs of it in about 50 per cent. of several hundred gynecologic patients. Other statistics are cited to show the frequent coincidence and the connection between lesions in the appendix and internal genitals. Riedel has reported sixteen cases of severe peritonitis in virgins developing from some genital process, but presenting in every respect the typical picture of peritonitis from perforating appendicitis. Natvig reports a similar case in a girl of seventeen apparently entirely well until symptoms of fatal perforation peritonitis developed suddenly. The laparotomy revealed that the appendix was sound and that the trouble originated in the tubes. There is no need to waste time in trying to differentiate between appendix and genital disease; the operation should include both in its possible scope. Natwig reviews his own experience, giving the details of twenty-four of the more instructive cases, salpingitis or displacement simulating acute or chronic appendicitis, habitual abortion or sterility from appendicitic adhesions, tubal pregnancy due to the same anomalies, thrombosis, myoma complicated with pains from chronic appendicitis, associated appendicitis and tubal pregnancy, etc.

Ugeskrift for Læger, Copenhagen

February 27, LXXV, No. 9, pp. 363-400

165 The Changes in the Red Corpuscles in Progressive Anemia. (Forandringer i de røde Blodlegemer ved *progressive* Anæmier.) L. Melchior.

March 6, No. 10, pp. 401-438

166 Connection Between the Presence of Body Lice and of Pigmented Areas on the Skin. (Notice historique sur les taches bleuatres—taches ombrées—des morpions.) Ehlers.

Upsala Läkareförenings Förhandlingar

XVIII, No. 3, pp. 121-188. Last indexed February 1, p. 408

167 Mercury Refound in Air and Dust of Rooms Where Mercury is Handled. (Untersuchungen über das Vorkommen von Quecksilber in der Luft und in dem Staube in einigen Unterrichts- und Dienstlokalen, in denen mit Quecksilber hantiert wird, sowie im Harne der dort beschäftigten Personen.) A. Blomquist.
168 Study of the Pulse and Blood-Pressure in Children Between 6 and 14. (Några iakttagelser angående utvecklingen af puls och blodtryck under den senare barnaåldern.) R. Friberger.
169 Influence of Certain Colloids (*Saponin and* Cholesterin) on Action of Enzymes. (Några kolloida substansers *inflytande* på hämningen af enzymverkan.) G. J. Blohm.

The Journal of the American Medical Association

Published Under the Auspices of the Board of Trustees

Vol. LX, No. 16 Chicago, Illinois April 19, 1913

INSTRUCTION IN HYGIENE IN MEDICAL COLLEGES AND THE TRAINING OF HEALTH OFFICERS*

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MINNEAPOLIS

In America we have been slow to recognize the need of special training for the various branches of public service. Many examples lie close at hand. We are proud to show visitors that our most imposing and best buildings are for the training of our children, those who are to carry on the work after we have laid it down. Yet we entrust the training of our girls and boys to those who are school-teachers *pro tempore* and whose ultimate graduation at the altar, at the bar, in the profession of medicine or in business, being constantly in mind, is apt to lower pedagogic efficiency. Corporation lawyers often use the bench as a postgraduate training. The interests of the corporations demand and receive the services of the best and most highly paid talent, while, on the other hand, the interests of the public are too often left to the individual who needs the opportunity either as a stepping-stone to something higher, or because he finds himself unfitted for the practice of law.

Our health offices are frequently given to the incoming recent graduate, from a mixture of motives. It is freely admitted by the older practitioners that service as a health officer is likely to make the individual so unpopular that he will move on. The newcomer is therefore cajoled into the position. Frequently the older medical men have too much to lose from their private practices to be able to afford the questionable luxury of public service. Occasionally, too, the position of health officer, or superintendent of hospital or other institution is regarded by the medical profession as a suitable gift for the man who has shown inaptitude or encountered misfortune in private practice. Too often, the position of city engineer is given to the land surveyor or other individual who needs it, but whose original training and field of practice have not been such as to fit him for the care of this phase of the public interest.

On every hand, we seek through volunteer agencies to secure satisfactory administration of laws which should become operative through official mechanisms, thus possibly postponing the final solution of our difficulties. Thereby, we add tremendous burdens to those who volunteer for public service and work them at great disadvantage, because frequently their main qualification is *interest* rather than *detailed knowledge*.

We need not dwell, however, on what has been. We can better discuss what is to be. Without delaying further to inquire into the mixture of causes or pausing to fix the blame for the apathy of the public in regard to its own welfare, we recognize the need for radical reform. Here in America, we who are optimistically inclined believe that the time has come when a demand is to be made in increasing degree for trained specialists, who shall devote their whole time and energy to the various phases of public health protection. We must, however, adjust the pay, as well as the authority, of our health officials and workers to the responsibilities which the public expects them to assume. We must guarantee them tenure of office dependent alone on efficiency. We must continue to insist that they be trained before they assume office and not expect them to gain their experience at the expense of the public.

The present great wave of publicity cannot but develop a public and private discrimination which will demand efficiency. Will the people who demand the efficient service be willing to pay the price for efficiency?

Altruistic and not financial considerations should dominate our discussion of the public welfare. It is useless, however, to expect men and women to spend thousands of dollars in preparation for life's work, unless they may look forward to a fair return upon the invested capital. There is a yet more important investment of which we sometimes lose sight. I refer to the years of youth and enthusiasm which cannot later be replenished as can an exhausted exchequer. On such a combined investment of the individual, it is but just that the public should make a return in recognition and the wherewithal to live.

What workers are needed in public health fields is a question we must ask ourselves in attempting to provide for their training. The answer to this is that experts in every line who approach social and economic activities from the health standpoint are even now required. All of us are naturally solicitous about the future and desirous that better training be provided for our successors. Complexities in increasing degree are, however, inevitable, notwithstanding the rapid advance in man's knowledge concerning his own environment. This very advance demands greater specialization and therefore means increased difficulty of coordination. Furthermore, increase in density of population, and facilities for transportation very naturally increase our difficulties in the adjustment of the duties and responsibilities of individuals to each other and of the individual to the mass.

In the ultimate analysis, no official public health-protective mechanism can operate without the intelligent interest and the sympathetic support of the medical profession, since its members are responsible for individual and family health, which in the mass represents public health. No attempt should be made, however, to make sanitary experts out of physicians by the ordinary medical college training. They should have sufficient foundation to enable them to meet their own responsibilities in general or special lines and to articulate with the official health agencies.

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* Presented before the Section on State and Municipal Hygiene at the International Congress on Hygiene and Demography, Washington, D. C., September, 1912.

No nation has more rapidly advanced in methods, machinery and requirements for the teaching of medicine than has the United States, and the training now given to undergraduates in our best colleges is not excelled by that of any other country. They require from six to eight years in college or university, medical school and hospital. This provides a general training in medicine but does not qualify graduates as specialists in private practice or as leaders in public medicine.

Engineering colleges, notably the Massachusetts Institute of Technology, are providing courses in sanitary and municipal engineering which require a four or five years' training on the completion of which graduates are incompetent to assume important and responsible public health positions without further training in relation to their "disease point of view." In our leading colleges and universities in connection with the departments of economics and sociology, training is provided for social workers and others who have important public duties to perform. They need, however, some more definite ideas concerning structural problems and the engineer's point of view, as well as of basic biologic, chemical and physical principles and modern conceptions and methods of dealing with health problems. The recenty aroused interest in the study of municipal problems is important, if it does not leave out of consideration or subordinate state, federal and international relations, as well as that most urgent of our problems, namely, rural betterment, which has so many sanitary complications.

Health departments of the future and other official and volunteer agencies for promoting public health must secure the coordinated service of various groups of physicians trained in many diverse lines; of economists, of social workers, of statisticians, of engineers of various trainings and ambitions, of dentists, of hospital superintendents, of bacteriologists, pathologists, and chemists, of meat, milk and food inspectors, of visiting nurses, school inspectors, physical trainers, inspectors of industries, teachers of public and personal hygiene; and legislators, lawyers and even policemen must be impressed into the service.

Now many of these workers require special training in advance in relation to their public duties. How should this training be provided and who shall teach?

Universities with the necessary departments must cooperate with the various federal, state or municipal official and volunteer public-health agencies. The state universities of the middle west can perhaps more easily make the needed articulations with other interests and thus obtain opportunities for practical instruction, than can the privately endowed institutions. If these universities are fortunate enough to be located, like the University of Minnesota, in progressive cities, the various phases of municipal hygiene may be studied practically, and more efficient and practical public-health teaching "clinics" conducted.

AN OUTLINE OF COOPERATIVE WORK

In laying out a course for Minnesota, the following agencies, among others, have been considered in plans for cooperative work and should be expected to furnish teachers and opportunities for practical observation, with actual field work in the case of certain of them because of their need of trained workers.

1. The University of Minnesota, a state institution.

A. The colleges of medicine, dentistry and pharmacy and the School for Nurses must continue to graduate practitioners, train teachers and become more productive in research.

B. The College of Agriculture in relation to rural sanitary betterment, food production and other such problems has much in the way of opportunity and responsibility.

C. The College of Engineering in matters involving construction and expenditure of funds, particularly in relation to water, wastes, ventilation, building construction, etc., should continue and extend its work in sanitation and public health.

D. The School of Chemistry should continue to participate in sanitary research and public-health teaching.

E. The College of Science, Literature and the Arts in its scientific laboratories of biology, physics and psychology and its departments of economics and sociology is in a position to contribute and receive much of very real value.

F. The College of Education, particularly in medical school inspection and the teaching of personal hygiene and physical training for children, has very real needs and offers unsurpassed opportunity for coordinating effort.

G. The University Department of Physical Training should be extended and built into a health-promoting and teaching organization.

H. The university health officer, when such a mechanism is provided will furnish the means for public-health teaching and research in the discharge of his daily work which is so much needed.

I. The University Extension Bureau can undertake no more practical and important work than the training of experts in health publicity and the spread of the gospel of health.

J. The College of Law and other departments and mechanisms of the university can all help and be helped by such affiliations.

2. The State Board of Health in its various branches, including administrative, engineering, epidemiologic, statistical and laboratory work, is in need of trained workers and should be glad to help in its many fields for practical training because it thereby helps itself. Three of the four divisions are already housed by the state university and cooperative arrangements should be still further extended. One of its division heads is on the university teaching staff in medicine and one in sanitary engineering. Both the engineering and medical graduates are therefore better prepared to meet their public responsibilities and to be of real help to the State Board of Health and their own local health boards.

3. The state departments of education, as also the city departments of education of St. Paul and Minneapolis, have many problems educational and sanitary which cooperative effort alone can solve.

4. The board of control institutions, which include state hospitals for the insane, schools for the feeble-minded, deaf and blind; state institutions for tuberculosis; schools for dependent and neglected children; correctional institutions, etc., are increasingly embarrassed by lack of trained workers. They will increase the efficiency of their own staffs by the stimulus of having them assist in giving instruction.

5. The State Live Stock Sanitary Board has many problems to solve and is helping to solve those which affect human health. It is already cooperating with the University Agricultural College.

6. The state dairy and food department and the federal meat inspection service at South St. Paul are important instruments not only in the protection of human welfare but in the teaching of public sanitation.

7. The state attorney-general's office can help in the study of the legal mechanism for the control of disease and in the teaching of those who are to become expert in the use of legal and other tools for protecting health interests. The university should also prove useful to that arm of the state if it could

furnish medical and other scientific experts for the court work of the state and develop an "institute of forensic medicine."

8. The state labor bureau has much both to give and receive in such a combined effort.

9. The municipal health departments of Minneapolis and St. Paul, the city engineering departments in relation to water supplies, sewage disposal, etc.: the municipal hospitals for contagious and other diseases, and the municipal health agencies of smaller cities are important to the success of such an organization.

10. The Associated Charities organizations of Minneapolis and St. Paul need workers and can teach much.

11. The State Association for the Prevention and Relief of Tuberculosis and other voluntary organizations and agencies should all present their work and activities to the students of public health and would undoubtedly welcome the advent of any mechanism for training workers.

The list given above is one which has already been presented[1] to the Minnesota State Sanitary Conference in 1910, to which I have made some additions which should doubtless be extended still further.

Time does not permit of a detailed outline of such courses but by interesting such agencies and workers as those mentioned, and by efficient instruction at our state university, and at certain stages of the teaching by placing the students in the field with those actually engaged in the work, an ideal training could be provided.

In regard to the teachers, it is not enough that a single individual should give all the instruction. A lasting impression concerning the responsibilities involved in daily practice in a particular sanitary field can be had only from intimate contact with those who are specialists in that line. The different workers, factors and fields involved should be presented to the student so that he may realize more clearly what is expected of him in his private and public capacities.

Public health work constitutes a series, and it should be a coordinated series, of specialties. For its successful teaching, therefore, a large staff is required, just as a large staff of medical teachers is required to teach modern medicine in all its phases. It seems probable that the development, even with those universities which are able to furnish the facilities already mentioned and to secure the proper articulation, will first be along the lines of departments of public health, and later, replacement of these by schools or colleges of public health, having on their faculties many members of the staffs of other colleges in the university; and in addition, lecturers from various state, municipal and federal departments, bureaus and institutions, and officers and workers of voluntary associations and certain private institutions.

CURRICULUM

Little has been said about curriculum, which must include the following, among other topics:

1. Legal mechanisms, federal, state and municipal, for the control of disease.

2. Vital statistics, or the bookkeeping of public health.

3. Consideration of the transmissible diseases and their means of spread and of *prevention*, whereby *the nature* of the virus, or the microbe, or exciting cause, is considered; the atrium or gateway through which *the virus* gains entrance into the body; the distribution of *the exciting cause* in the infected individual; methods of its elimination; its point of exit; the rôle played by intermediate carriers or vehicles and the modifications of procedure which are involved by our possession of any specific means of protection based on the use of vaccines, antitoxins, or other such agents.

4. Disinfection.

5. Occupational diseases, exclusive of infection.

6. Milk-supply in relation to disease.

7. Food-supply; meat inspection, etc.

8. Water-supply and sewage disposal.

9. Sanitary engineering and architecture, including plumbing, ventilation, hospital, school and other public building sanitation as well as housing conditions.

10. Social economics and the economic cost of disease: saving to be effected through conservation; governmental and other life and sickness insurance mechanisms.

11. Publicity in relation to public health.

12. Sanitation of travel.

13. Sanitary aspects of embalming, funeral direction, transportation of the dead.

14. Inspection of hotels and restaurants in relation to cleanliness, sanitary facilities and also medical inspection of those who handle food, water, etc

15. School hygiene in its many phases.

16. The hygiene and the conduct of public institutions for the insane, feeble-minded, deaf, blind and also our correctional institutions.

17. Eugenics in its educational and legal aspects.

18. Infant welfare.

19. The hygiene of venereal diseases.

20. Mental hygiene.

21. Naval and military hygiene.

22. Tropical medicine.

23. Personal hygiene, to include nutrition, instruction on food values and preparation, exercise, clothing, individual habits of work, sleep, etc.; sex hygiene.

24. Alcoholism in its personal and public phases.

25. Dental and oral prophylaxis considered in relation both to personal hygiene and to public teaching and practice.

It is not practical that the instruction given to the various types of *public* health workers should be identical, in regard to the length of the course, the subjects included, or the amount and character of instruction in each course. It is not necessary or even desirable that students should all have the initial training. It seems fairly certain in fact, that very different courses will be demanded and it is therefore only logical that different degrees or diplomas should be granted, according to the nature and length of the training which has been received and the character of the public-health service for which the individual seeks to qualify. For those who expect to serve as medical officers of health, shall we demand a preliminary graduation in medicine? If so, shall we give a three years' training in the public-health school? This question can be answered best by saying that thus far, the American universities which have developed such courses have had practically no students. It is absolutely necessary that all workers in the public-health field should acquire the disease point of view, but it does not seem feasible or desirable that of every worker in public health, a medical degree should be demanded. Physicians who go into public health work find that to their knowledge of medicine must be added many other important items of experience. Engineers are ready to make the same admissions about their deficiencies of training. Sociologists and economists have already found that it is impossible for one individual or department to specialize in every phase of *human* activity and relationship. They realize that unless due care is exercised, they are likely to lack discrimination in relation to medical matters just as the engineers accuse the medical men of being deficient in quantitative sense. We shall not arrive at our destination however, if we *stop* when we have pointed out each other's faults.

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[1] Wesbrook, F. F.: Diplomas in Public Health, Jour. Minnesota State Med. Assn., 1910, N. S., xxx, 304.

Only by team work in which each recognizes the importance and strength as well as the needs of his collaborators shall we advance.

As an additional safeguard of our public health, if it seems desirable, we may require license of the trained worker, in addition to his diploma or certificate.

The additional duty might be put on our State Board of Health of examining for license those who seek to enter any of the sanitary fields, for which they have received special training as evidenced by their diplomas or certificates.

The Danish plan of a provisional appointment to public office for a limited period, say for six months, in order to determine practical fitness, before the appointment is confirmed, has very decided advantages. This proceeding is perhaps more applicable, however, to the position of medical officer of health than it is to some of the subordinate positions.

For the training of public-health workers, not only is it necessary that some knowledge of man's structure and the functions of his various organs be learned, but his relation to his environment must be understood. The practical consideration of costs and of structural detail must not be lost sight of since much of our program must needs be constructive. Above all things a knowledge of mankind is quite as essential as a knowledge of man. Human nature will continue to be just as important a factor in the future as in the past. Men and women of exceptional caliber and of great breadth and depth of training are needed and will be forthcoming just as rapidly as the public realizes its need. Our problem then is largely that of developing public interest and support by the rationality of our methods of work, and our recommendations for the betterment of existing means.

SYSTEMATIC EXERCISES IN POSTOPERATIVE TREATMENT

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The object of this paper is to recommend early systematized exercises in postoperative treatment when the condition of the patient and the character of the operation permit. It is with some hesitation that the suggestion is made, since it involves a detail so simple that it might appear not to merit discussion and so obvious as to make it scarcely credible that it has not been regularly employed by others. Yet any procedure which might be expected to increase the comfort and tend to the welfare of the patient demands consideration, and, as far as can be ascertained, no plan for the systematized application of postoperative exercises has been presented.

I am in a position to speak from personal experience of the value of the procedure. In August, my appendix was removed, the operation being performed in the interval. The exercises here described were planned and carried out regularly three times a day, from the third day. There was comparatively little fatigue after leaving bed on the eighth day, and on the thirteenth and fourteenth days 60 miles over a rough trail were covered by wagon and on horseback without undue fatigue and with no apparent ill effects. Since then a number of patients have been encouraged to pursue a similar course of exercises. These have involved no hardship and almost invariably have been commended as a reasonable and useful procedure. Several patients stated that they felt better after beginning the exercises. Certainly, on getting up, all of them gave the impression of being stronger than the average patient, who has followed the usual postoperative course and has lain listless and inert during his confinement in bed, attention being directed almost exclusively to primary union and the bowels, with consequent complete neglect of the general physical well-being.

The following are exercises from which a choice may be made. They do not constitute an exhaustive list, but appear in general to be the safest and most efficient.

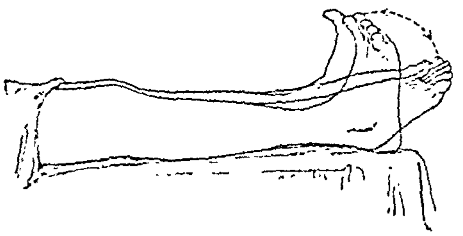

Fig. 1.—Ankles flexed and extended.

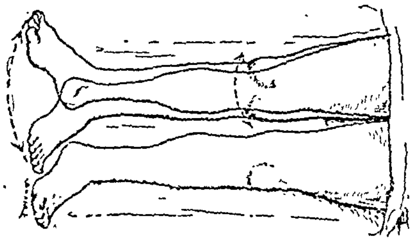

Fig. 2.—Right lower extremity rotated (limbs are rotated separately).

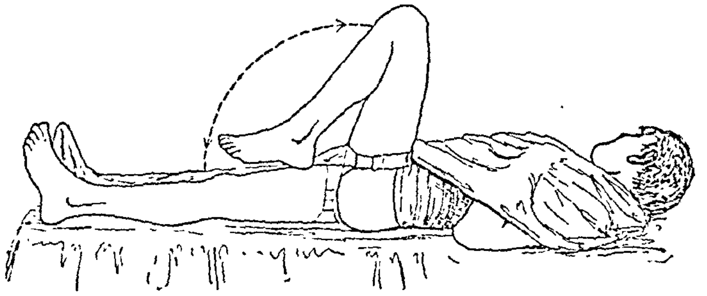

Fig. 3.—Hip flexed and extended.

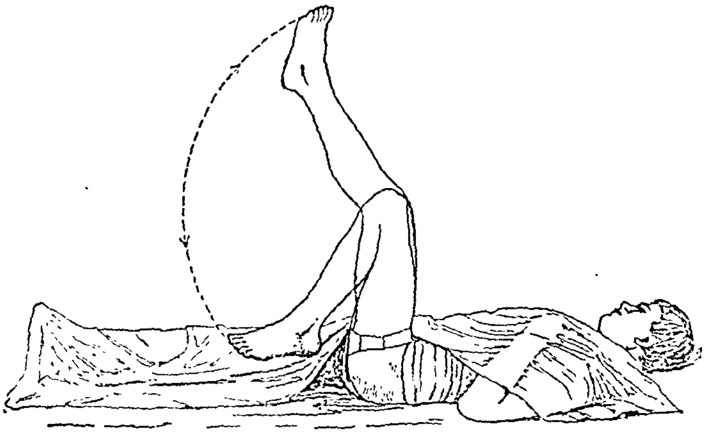

Fig. 4.—Knee flexed and extended.

1. Ankles flexed and extended.
2. Lower extremities rotated (separately).
3. Hip flexed and extended.
4. Knee flexed and extended.

Both 3 and 4 should be used with care after a celiotomy; frequently they should be restricted to one side, the other thigh being somewhat flexed; thus after appendectomy or right inguinal hernia, they should be omitted on the right side.

5. Fingers flexed and extended.
6. Wrists flexed and extended.
7. Forearms pronated and supinated.
8. Elbows flexed and extended.
9. Arms flexed and extended.
10. Neck flexed by raising head.

11. Head moved from side to side (lateral flexion, not rotation).
12. Deep breathing.

Those exercises appropriate to a given case having been selected, the patient is instructed in their performance.[1] The exercises should never be continued beyond a point of moderate fatigue and should be modified according to the character of the patient and the operation. In general, however, each movement should be performed about ten times at first and gradually increased to twenty-five or thirty, three times a day, beginning about the third day or as soon after the operation as conditions warrant. Five minutes should suffice for all the exercises. In the exercises for the neck and upper extremities the knees should be flexed to relax as far as possible the abdominal muscles, but even then the neck exercises may cause some contraction of the abdominal recti. *All movements of the limbs should be performed with voluntary muscular resistance.*

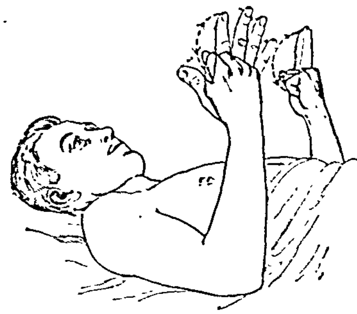
Fig. 5.—Fingers flexed and extended.

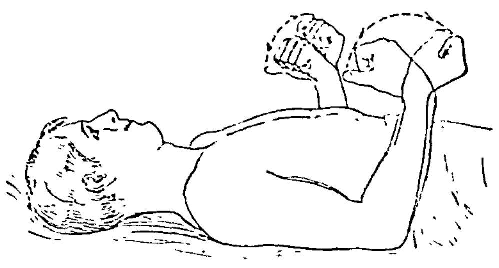
Fig. 6.—Wrists flexed and extended.

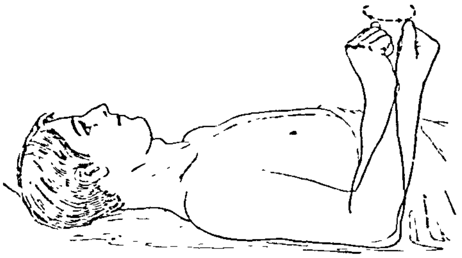
Fig. 7.—Forearms pronated and supinated (should be bilateral).

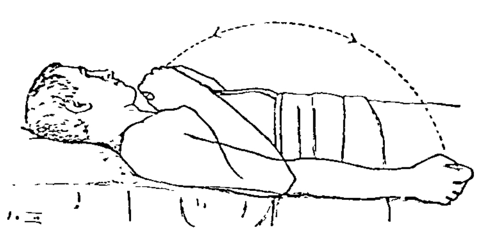
Fig. 8.—Elbows flexed and extended.

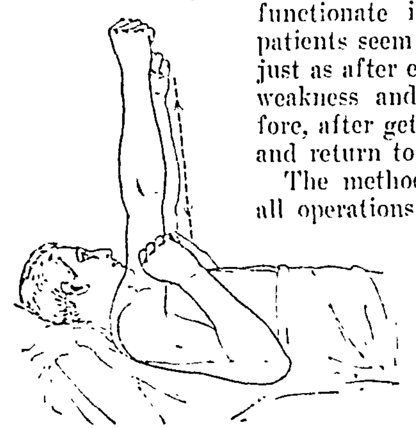
Fig. 9.—Arms flexed and extended.

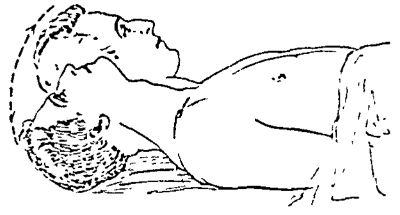
Fig. 10.—Flexion of neck by raising head.

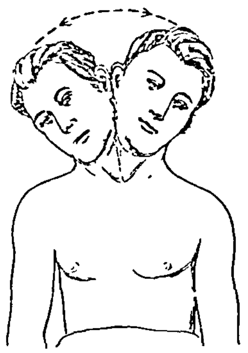
Fig. 11.—Head moved from side to side (lateral flexion).

The assumed and apparent advantages of the procedure are as follows: The general circulation is improved, and as a result all parts of the body should functionate in a more normal manner; the patients seem to appreciate this and feel better, just as after exercises at other times. Muscular weakness and atrophy are diminished; therefore, after getting up, exertion is less fatiguing, and return to normal is more rapid.

The method obviously cannot be used after all operations, nor should it be substituted for early sitting up in the old and feeble; it is chiefly applicable to routine cases, such as internal appendectomy, simply herniotomy and many gynecologic operations. The procedure is not intended as a substitute for massage and passive movements when these are indicated. It may frequently supplement them with advantage, but it is especially appropriate for the kind of case in which massage is not ordinarily used; that is, when the patient's health and strength are good at the time of operation, and, deterioration not being conspicuous, no effort is made to keep him in good condition. Private patients doubtless will receive the benefit of these exercises to a greater extent than ward patients, both because they demand and obtain more supervision and thought for their comfort, and because they are isolated so that their actions do not attract attention or excite comment. But if systematic exercises should be regarded with favor, their application to ward patients would not offer any serious obstacle.

Two objections to the procedure will at once suggest themselves; first, the possibility of interference with the repair of the wound by movement of the parts, and, second, the danger of embolism from the dislodgement of a thrombus. Let us analyze these objections.

A fairly prolonged stay in bed after a celiotomy (usually from one to two weeks) is recommended by most surgeons, largely that the coapted tissues may unite firmly before considerable strain is allowed to bear on them. On the other hand, some surgeons, among whom is Kümmel,[2] advise getting patients out of bed as early as the first day after a celiotomy. But it is manifest that premature rising from bed is done at the sacrifice of proper wound repair which demands rest of the parts involved, and this can be secured, in many classes of operations, only by confinement to bed for a reasonable length of time. The adoption of exercises during this period provides almost all of the advantages gained by a shortened stay in bed, without interfering with the best conditions for the repair of the wound. In this connection, however, it must be emphasized that movements should be carefully chosen and regulated so that the tissues in the region of the operation may not be disturbed, especially by the play of muscles which would strain the sutured wound.

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[1] The instruction of the patient or attendant as to the exercises is simplified by the use of such a form as the following in conjunction with the illustrations. The parts in italics should be blank to be filled in by the surgeon.

Instructions for exercises following *Right Inguinal Hernia* or *Internal Appendectomy.*

Begin postoperative exercises on *third* day.

Number of times daily: *three.*

Times for exercises: (*regular times should be prescribed*).

Number of times each exercise (always stop short of fatigue): *Begin at 10, increase gradually to about 30.*

Exercises: *1-12 with exceptions as follows: left side only, 3 and 4.* (In a hernia the operator may consider it wiser to omit or postpone 3 and 4.)

[2] Kümmel: Deutsch. med. Wchnschr., 1909, No. 43, p. 1865.

As bearing on the question of danger from thrombosis and embolism, it is significant that the only recommendations for the use of postoperative exercises which seem to have been made heretofore have been in connection with the prophylaxis of these complications. Kleinschmidt[3] states that opinions are of late increasing in favor of mechanical causes as the decisive etiologic factor. He states that in the majority of cases thrombosis is due to retardation of the blood-current; and that less often infection is the cause. He states that when infection plays a part it is through inflammatory changes in the vessel wall resulting in a secondary thrombus which is often found to be free from bacteria. By reason of the importance thus ascribed to retardation of the blood-stream in the etiology of thombosis, he recommends as a prophylactic measure in all laparotomy cases the improvement of the circulation by movements of the extremities, raising the upper part of the body, change in position and massage. Kreeke,[4] Henle[5] and others have advocated similar measures. Whereas it is claimed by those who advocate getting patients out of bed soon after an operation that the resulting improvement in the circulation diminishes the occurrence of thrombosis and embolism, some surgeons, notably Gebele,[6] feel that the danger from these complications is increased unless moderately long rest and quiet in bed is practiced. Yet the fact cannot be overlooked that a large proportion of the fatal cases of embolism occur about the thirteenth day, or soon after the patient rises from a recumbent position which he has occupied during the whole period of convalescence, relatively inactive and inert. Such cases are in favor of exercises for the prophylaxis of emboli. Although the question cannot be settled theoretically, there are no arguments sufficiently weighty to allow the fear of embolism to militate against the employment of exercises. In fact, if early rising has any merit in preventing the occurrence of thrombosis and embolism, exercises should be equally advantageous without interfering with the essential rest of the parts undergoing repair.

CONCLUSIONS

While it is impossible to estimate accurately the effects of postoperative exercises, their trial in a number of cases seems to support the theory that as a result of their use the general circulation is improved, the functions of the body are performed in a more normal manner, the patients feel better, muscular weakness and atrophy are diminished, and after getting up exertion is less fatiguing and return to normal is more rapid. The two objections—possible interference with the repair of the wound and danger of embolism and thrombosis—may be disregarded. No injury to the wound is to be anticipated provided proper exercises are selected and intelligent instruction is given the patient; moreover, there is no valid reason to fear embolism and thrombosis; in fact, there is some reason to believe that the exercises may be advantageous as a prophylactic against these complications.

If postoperative exercises are desirable, it is essential that their use should be systematized. A general policy may be adopted in each variety of operation as to the kind of exercises, the number of times each is to be performed, the number of times a group of exercises is to be carried out each day, and definite times for their performance. Yet in many cases the condition of the patient and the nature of the operation demand variation from a fixed routine, so that, although a definite plan may be followed in general, supervision is essential in every case.

107 East Sixtieth Street.

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[3] Kleinschmidt: Ergebnisse der Chirurgie und Orthopädie, 1913, v, 432.

[4] Kreeke: München. med. Wchnschr., 1910, No. 39, p. 2037.

[5] Henle: Verhandl. d. deutsch. Gesellsch. f. Chir., 1908, xxxvii, 17.

[6] Gebele: Verhandl. d. deutsch. Gesellsch. f. Chir., 1908, xxxvii, 17.

A NEW LUMBAR-PUNCTURE NEEDLE

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The need is obvious for a new lumbar-puncture needle which will accurately measure the cerebrospinal pressure, and which will permit the withdrawal of uncontaminated fluid from the spinal canal or the introduction of serum, anesthetics or other fluid with minimum manipulation.

The instrument usually employed in America is the simple straight needle, the use of which always entails the loss of more or less cerebrospinal fluid before the trocar is withdrawn and a manometer attached for making a pressure-reading. This of itself not only makes the pressure-readings inaccurate, but soils the field of operation, especially when the patient is suffering from epidemic cerebrospinal or tuberculous meningitis.

Many modifications of this apparatus have from time to time appeared.[1]

In Germany, the three most popular needles in use are:

1. Quincke's apparatus which, according to Reichmann, when showing a reading of 120 mm., uses 8 c.c. cerebrospinal fluid.
2. Krausche's apparatus, which gives fairly accurate measurements, but employs normal sodium chlorid solution, which mixes to a certain extent with the cerebrospinal fluid, thereby preventing accurate cytologic or chemical examinations.
3. Reichmann's apparatus, which seems too complicated to come into general use.

The above-mentioned needles do not quite fill the need of an instrument in the use of which there must be a quick, accurate method of reading the pressure and of withdrawing or introducing fluids without much manipulation.

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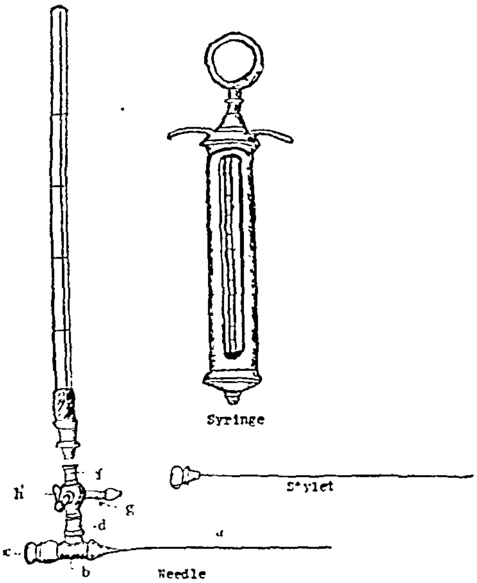
[1] Those interested are referred to the following literature:
Quincke: Technique der Lumbal Punction 1902. Deutsch. Klin., 1901, vi, 351.
Kronik: Deutsch. med. Wchnschr., 1897.
Wilms: München. med. Wchnschr., 1897, p. 55.
Pfaundler: Beitr. z. klin. Med. u. Chir., xi, 20.
Crohn: An Improved Apparatus for Estimating the Pressure in the Cerebrospinal System, THE JOURNAL A. M. A., April 1, 1911, p. 1566.
Reichmann: München. med. Wchnschr., February, 1912, No. 9.
Ebright: Lumbar Puncture in Diagnosis and Therapeutics, THE JOURNAL A. M. A., Nov. 7, 1908, p. 1566.

The apparatus which seems to fill the needs above-mentioned is simple in construction, and consists of:[1]

1. An iridoplatinum needle (*a*) 9 cm. long with a bore of 1 mm. which is attached to
2. An elbow (*b*) into one arm of which a plug (*c*) is fitted. This plug can easily be removed and a trocar inserted, should the needle become clogged. The other arm (*d*) is attached to
3. A 3-way stop-cock, one arm (*g*) of which comes off at right angles to the direction of the needle, and is used to withdraw the fluid used in the various tests.
4. A manometer consisting of a piece of glass tubing from 400 to 600 mm. long, 6 mm. thick and of 1 mm. bore. This is attached to the arm (*f*) of the stop-cock by means of a perforated plug. The manometer is graduated to 10 or 25 mm.

The technic for reading the pressure and for withdrawing fluid is thus made very simple indeed. Until the needle pierces the skin, the indicator (*h*) of the stop-cock is placed between the arms (*f* and *g*), thereby shutting off both outlets. Once underneath the skin, the manometer is attached and the indicator turned so that it points in the direction of the manometer. The operator pushes the needle until it reaches the pia-arachnoid space, at which instant there will be a rush of fluid into the manometer. The maximum height is quickly reached and the fluid is seen to oscillate with each phase of respiration.



Lumbar-puncture needle.

In some cases of suspected brain tumor showing signs of increased intracranial pressure, the outflow of the cerebrospinal fluid has been too rapid, and sudden exitus has resulted. With this apparatus the outflow can be so controlled that such accidents should be more infrequent.

After the pressure is read the indicator is turned through 90° toward arm *g*, which allows the escape of the fluid from the manometer into a collecting tube held there by the operator, and finally through 180° toward the elbow (*b*). This connects arm *g* with the needle and causes the cerebrospinal fluid to flow into the collecting tube from the spinal canal. When sufficient fluid has been collected, the stop-cock is turned off, or another reading of the pressure can be made merely by turning the indicator.

If, now, serum, anesthetic or other fluid is to be inserted into the spinal canal, the manometer is removed; a syringe containing the fluid is substituted and its contents introduced at whatever speed desired. When this operation is completed, the stop-cock is closed and the needle withdrawn without the loss of a single drop of fluid at any stage.

In summary, the advantages of this apparatus, aside from its simplicity, are:

1. The manometer readings are accurate.
2. The control of the speed of outflow of the cerebrospinal fluid is absolute.
3. The instrument is so constructed that it is possible to tell the instant the pia-arachnoid space is reached, thus causing a minimum of injury to the surrounding tissues.
4. During the whole operation, not a single drop of fluid is lost.
5. A small amount of fluid is needed to record a reading of 120 mm. pressure (12 drops, about .75 c.c.).
6. The instrument can be used for the introduction of serum, anesthetics or other fluids into the spinal canal.
7. The needle requires so little manipulation during its use that the principles of asepsis can be carried out with exactitude.

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[1] I wish to express my thanks to Dr. F. J. Sladen of the Johns Hopkins Hospital and to Dr. W. F. Schaller of the Stanford Neurologic Department for the privileges of the wards and for many helpful suggestions.

HOSPITAL CLINICAL RECORDS

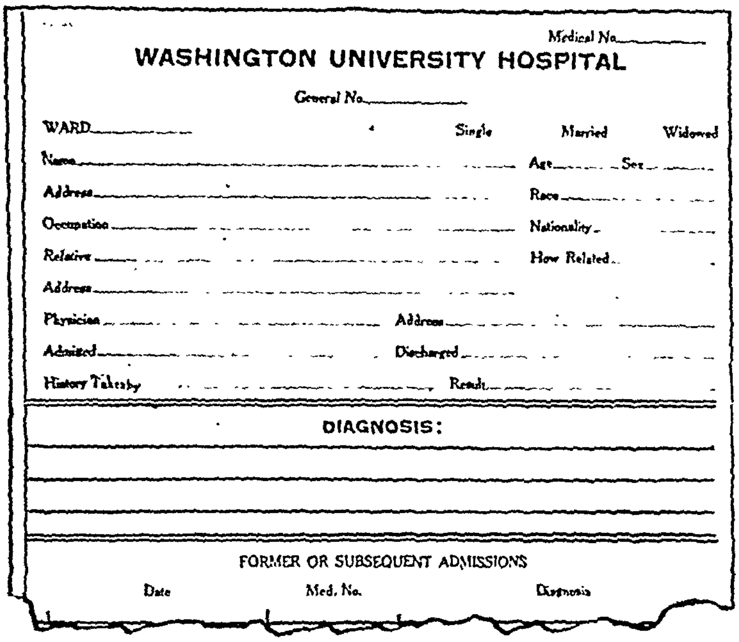
JAMES S. BROTHERHOOD, M.D.
SARATOGA SPRINGS, N. Y.

With the adoption of more uniform and systematic methods of accounting in the administration of the hospitals throughout the country, it has occurred to me that the same line of improvement might be continued in the matter of hospital clinical records. There exists in almost every hospital a wealth of clinical material, the systematic record of which would afford untold value in proving the efficacy of any particular line of treatment, medical or surgical, or the relative value of the various diagnostic signs. With the uniform recording of the clinical observations and the laboratory findings, the correlation of all such data would be made possible.

Investigation of the records of a few hospitals would soon convince one of the necessity for some such uniformity or standard of method. There are few hospitals, and these mostly in close connection with medical schools, which attempt to keep any record of the patient's condition other than a numerical register of the temperature, pulse and respiratory rate. If the patient happens to be very ill, a few bedside notes or "special charts" are kept by the nurses.

A little over a year and a half ago I secured from about thirty of the leading hospitals throughout the country samples of their clinical record blanks and charts. With these as a guide I have endeavored to arrange a set of clinical record sheets which would incorporate the good points of all. In seeking after a set of charts for use in a general hospital no attempt was made to include the various forms, charts or diagrams used by the "specialists." The first consideration to be met was the choice of a page of suitable size for the printed forms, as the sample records received ranged in size from small note-paper to large sheets measuring

14 by 30 inches. It was found most economical to select a standard-size paper 8½ by 11 inches, the size used for business letters, and all record forms were printed on this size. In addition to being of convenient size to handle, the paper is easily adapted to the various filing devices offered by the manufacturers.



Medical No.________

WASHINGTON UNIVERSITY HOSPITAL

General No.________

WARD________ Single Married Widowed
Name________ Age____ Sex____
Address________ Race____
Occupation________ Nationality____
Relative________ How Related____
Address________
Physician________ Address________
Admitted________ Discharged________
History Taken by________ Result________

DIAGNOSIS:

FORMER OR SUBSEQUENT ADMISSIONS

Date Med. No. Diagnosis

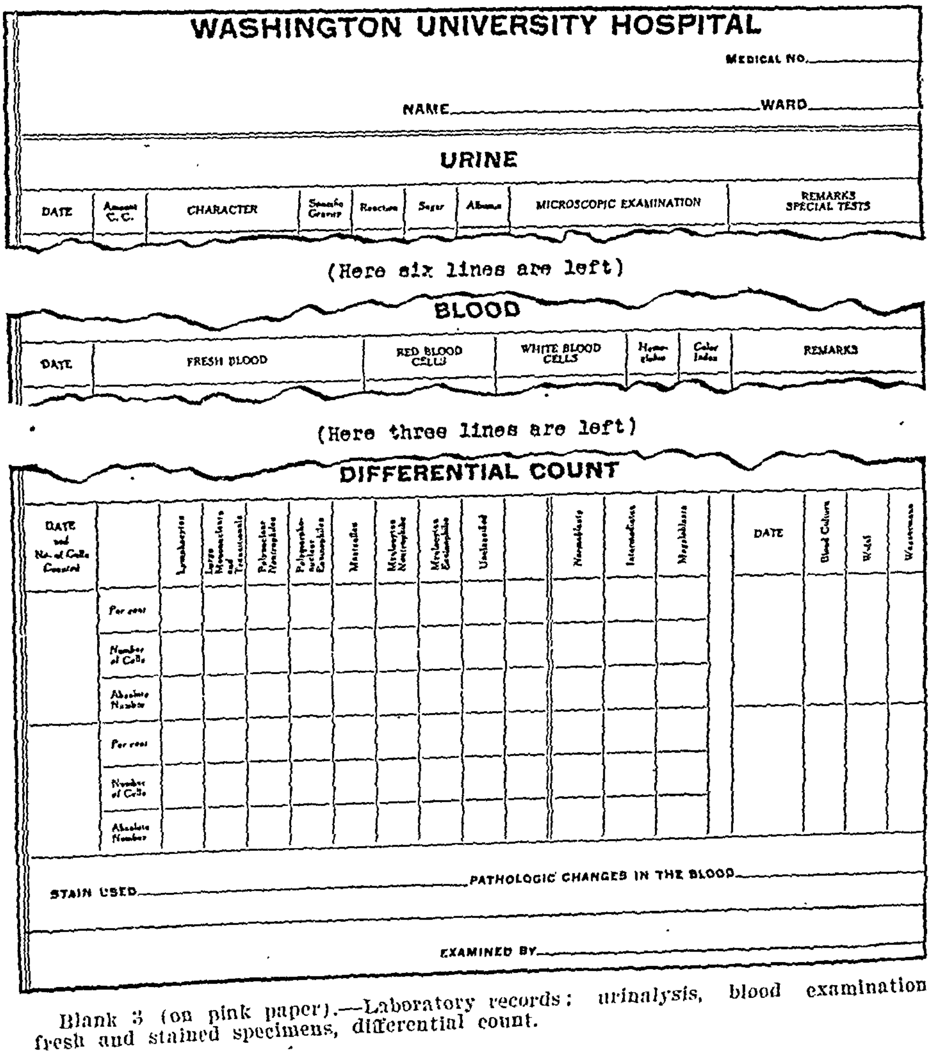
Blank 1 (on white paper).—The upper half of the history front sheet, for recording vital statistics regarding patient, diagnosis and remarks. There are six lines for the record of former or subsequent admissions, below which, under the heading "Remarks," are eight blank lines. In all the illustrations the margin at the left for binding has not been reproduced. Blank 2, which is not reproduced, has spaces for the name and the medical number at the top; the rest of the sheet has plain ruling and is used as a history filler for recording the patient's history, results of physical examination and bedside observations. At the left, inside the margin for binding, is a vertically ruled column one and one-half inches wide for synopsis or abstract of paragraphs.

The routine hospital record may be said to consist of four different portions, and these will be taken up in detail. The first portion of the history form designated as the "front sheet" (Blank 1) is devoted to the vital statistics regarding the patient; namely, patient's name, address, occupation, age, sex and nationality, and the name and address of patient's nearest relative or friends; name and address of the physician referring the case to the hospital; date of admission and discharge; result; history taken by ———; diagnosis; dates of former and subsequent admissions to the hospital, diagnosis and history numbers. A generous amount of space is left at the bottom of the page and headed "remarks" for the notation of any particularly interesting feature of the case or unusual complication. At the top of the page spaces should be provided for the general hospital number and the special service number (medical, surgical, gynecologic, obstetric).

The second portion of the history form or "filler" consists of a plain ruled paper with a side margin or column of 1½ inches' width and an additional allowance for binding. The side column permits the writing of a few notes and an abstract or summary of the paragraphs of the history. The major portion of the ruled space is devoted to a carefully taken history of the patient's illness, the results of the physical examination on admission to the hospital, and subsequent bedside observations by the attending physician, resident physician or intern. It is advised that a good thin bond paper be used and that all the writing be confined to one side of the paper. The use of a rubber stamp and printed outlines of the chest, abdomen and pelvis greatly facilitates the accurate description and localization of the various signs and abnormalities.

The third portion of the clinical record consists of several charts on which are recorded the results of the laboratory and special examination, with places for photographs, tracings and sphygmographic tracings. The advantage of having all the laboratory findings and results of special tests together and not scattered throughout the history is apparent. The laboratory record forms (Blanks 3 and 4) have spaces devoted to the examination of urine, blood (fresh smears, stained specimens and differential counts), sputum, stomach analysis, stool examination and pathologic reports. With such complete and uniform outlines as a guide one can be reasonably sure that none of the "usual findings" to be looked for will be forgotten. At the suggestion of Dr. George Dock the laboratory and special examination charts were printed on different-colored paper from that of the main body of the history, thus permitting quick reference in reviewing the history.

The fourth portion of the clinical record (Blank 5) consists of the record of the patient's temperature, pulse and respiratory rate, blood-pressure determinations, daily output of urine, number of stools, etc. The making of these charts naturally becomes the duty of the



WASHINGTON UNIVERSITY HOSPITAL

MEDICAL NO.________

NAME________ WARD________

URINE

DATE	Amount C. C.	CHARACTER	Specific Gravity	Reaction	Sugar	Albumin	MICROSCOPIC EXAMINATION	REMARKS SPECIAL TESTS

(Here six lines are left)

BLOOD

DATE	FRESH BLOOD	RED BLOOD CELLS	WHITE BLOOD CELLS	Hemoglobin	Color Index	REMARKS

(Here three lines are left)

DIFFERENTIAL COUNT

DATE and No. of Cells Counted		Lymphocytes	Large Mononuclears and Transitionals	Polymorphonuclear Neutrophiles	Polymorphonuclear Eosinophiles	Mastcells	Myelocytes Neutrophile	Myelocytes Eosinophile	Unclassified		Normoblasts	Intermediates	Megaloblasts		DATE	Blood Culture	Widal	Wassermann
	Per cent																	
	Number of Cells																	
	Absolute Number																	
	Per cent																	
	Number of Cells																	
	Absolute Number																	

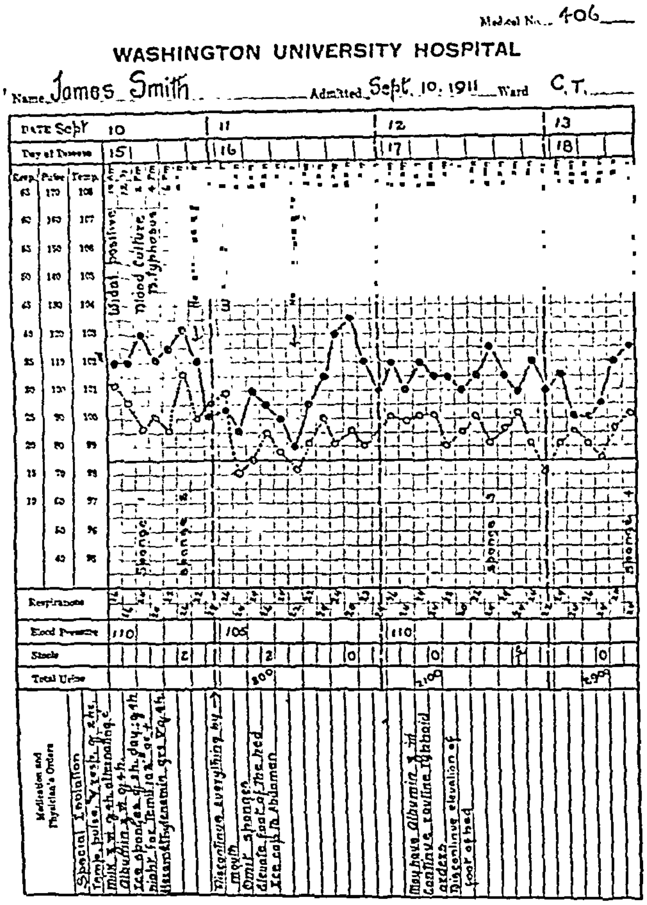
STAIN USED________ PATHOLOGIC CHANGES IN THE BLOOD________

EXAMINED BY________

Blank 3 (on pink paper).—Laboratory records: urinalysis, blood examination, fresh and stained specimens, differential count.

nurse, and in order that these records may be uniform it is customary to set apart one nurse at a time to take the temperature, pulse and respiratory rate, and record the same for a whole ward.

This chart, generally designated as the "temperature chart," is the most important of the daily records of the patient's condition, and is to the physician what a compass and log-book are to a mariner, and is an invaluable aid to the conduct of the case. The so-called "temperature-pulse curve" formed on the chart by connecting lines instead of a series of numbers is often so characteristic as to be of distinct assistance in reaching a diagnosis.


Medical No. 406
Name James Smith Admitted Sept. 10, 1911 Ward C. T.

Special Isolation
Albumin
Ice sponges
Discontinue everything by mouth
Omit sponges
Elevate foot of the bed
Ice cap on Abdomen
May have Albumin
Continue routine typhoid orders
Discontinue elevation of foot of bed

Blank 5.—Temperature chart form for recording temperature, pulse and respiratory rate, blood-pressure, stools, urine, day of disease, medication and physician's orders. The temperature is plotted in the upper line, solid, with solid circles. The pulse-rate is represented by lower line, dotted and with open circles. In charting, this line is made the same as the temperature line, but is printed in red ink. Midnight line also a solid line in red ink.

The relation of the pulse to the temperature over an extended period are depicted with faithful accuracy. Spaces are also provided for the date of the day of admission to the hospital, day of the month and day of illness, and the number of the day or days after operation. At the bottom is a wide horizontal column for the record of the standing orders of the physician, special medications or therapeutic procedures. These may be arranged so as to correspond with the hour of the day when given and when discontinued.

Below is a sample chart and a set of instructions to the nurse who does the charting. A single chart will suffice for the recording of thirty-eight separate temperature and pulse determinations, and will last from three days to two weeks for the usual case.

RULES FOR CHARTING

Always put patient's full name, date of admission, ward number, on each temperature chart (in black ink), and the hospital number in the appropriate space (in red ink).

Number sheets of long chart.

Midnight line (red ink) to be drawn in the middle of the space.

When charts are made "B D" (temperature taken twice daily) draw line at midnight and change on next day.

The letters R and M placed at the beginning of the temperature line will indicate whether the temperature was taken by mouth or rectum. In case a change in method is made, it is to be indicated by the letter under the dot where the change occurred.

Patient's temperature is to be taken twice on admission: once by mouth and again when in bed by rectum, the latter to be charted as the admission temperature. In all cases temperatures are to be taken every two hours until otherwise ordered; all continuous fevers—typhoid, malaria and pneumonia—every two hours.

Patients on a two-hour temperature are always awakened until otherwise ordered. All two-hour temperatures are rectal, all four-hour and twice daily, by mouth until otherwise ordered.

If any patient develops a sudden rise of temperature, temperature is to be taken every two hours.

Chart temperature (black); pulse (red); hours (red ink) except 8 a. m. and 8 p. m. in black ink.

Chart stools (character and size, in typhoid fever) and urine, in red ink; day of disease in black ink.

Stools charted 8 a. m. and 8 p. m., urine (total amount) at 8 a. m. (red ink).

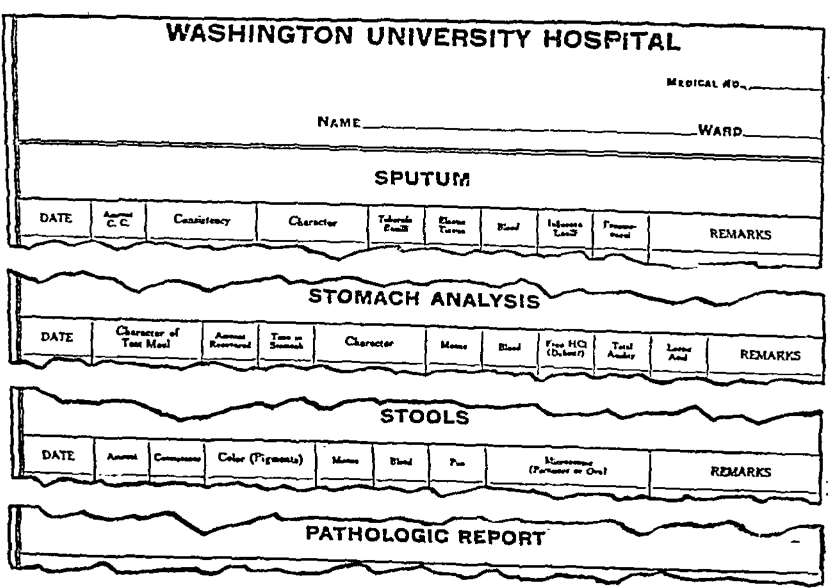
Chart enemas in space for stools.

All medicines charted when ordered and when discontinued, for example, digitalis, strophanthus, potassium iodid.

Chill to be printed and underscored on chart. Temperature to be taken every half hour during any chill until it begins to fall, then every two hours until normal.

Sponge-baths entered below the normal temperature line numbered 1, 2, 3, not in roman numerals (red ink).

Hemorrhages or operations (charted by nurses), black ink. Positive or negative Widals, blood-cultures and leukocyte


WASHINGTON UNIVERSITY HOSPITAL
MEDICAL NO.
NAME
WARD
SPUTUM
DATE
Amount C. C.
Consistency
Character
Tubercle Bacilli
Elastic Tissue
Blood
Influenza Bacilli
Pneumococci
REMARKS
STOMACH ANALYSIS
DATE
Character of Test Meal
Amount Recovered
Time in Stomach
Character
Mucus
Blood
Free HCl
Total Acidity
Lactic Acid
REMARKS
STOOLS
DATE
Amount
Consistence
Color (Pigments)
Mucus
Blood
Pus
Microscopic (Parasites or Ova)
REMARKS
PATHOLOGIC REPORT

Blank 4 (on green paper).—Laboratory records; examination of sputum, stool and pathologic report. Three lines are left under each of the headings "sputum," "stomach analysis" and "stools"; a larger space is left under "pathologic report."

counts are to be charted by the ward doctor (in black ink) in space above 103 temperature line.

In typhoid fever cases, chart diet and first day up. All standing or continued orders are to be charted in black ink in proper space, corresponding to the hour ordered. When treatments or drugs are discontinued, the order for the discontinuance is placed in the space as near as possible to the hour which corresponds to that in which the change is ordered to take place.

Several methods are employed for the storing and keeping of the completed records. In small hospitals, the number of the records being small, suitable manila paper covers are attached to the histories and the whole properly placed in filing cases according to general hospital or special service number. In larger hospitals the histories are bound, and this keeps the records in small compass and prevents the loss of any individual history. The binding of fifty medical histories makes a volume from 4 to 5 inches thick. A cross-index card system of patient's name and disease facilitates in locating any desired record, and is of marked service when any statistical hospital report is to be made of the progress of the various services.

The clinical history forms described and illustrated here have been in use for the past year and a half in the Washington University Hospital, St. Louis, and the Saratoga Cure and Infirmary, Saratoga Springs, N. Y., and have given satisfaction.

I am indebted to Dr. George Dock and Dr. Roger Morris for many helpful suggestions.

109 Caroline Street.

COMPLEMENT-FIXATION TESTS FOR STREPTOCOCCUS, GONOCOCCUS AND OTHER BACTERIA IN INFECTIVE DEFORMING ARTHRITIS AND ARTHRITIS DEFORMANS

THOMAS WOOD HASTINGS, M.D.
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NEW YORK

Assuming that the cause of arthritis deformans is a bacterial infection, cases of chronic infective deforming arthritis, or "chronic infectious arthritis," and arthritis deformans must be classed as the same disease etiologically. This assumption has been made by several, and a few physicians, on the basis of this assumption, have treated cases of arthritis deformans with streptococcus vaccines (Smith,[1] Ball,[2] Horder[3]). Horder and Smith have given good reasons for considering a particular vaccine specific for the disease.

An article by Skinner,[4] in 1910, describing the results of 160 cases of arthritis deformans, claims much for the usual methods of treatment thoroughly carried out. He reports 25 per cent. apparently cured, 65 per cent. benefited in varying degrees, and 10 per cent. apparently uninfluenced. The 10 per cent. of uninfluenced cases is the class that specific therapy is supposed, by those who employ specific treatment for infective processes, to benefit.

Articles by Bannatyne and Lindsay[5] and by Painter,[6] which from their titles one would suppose dealt with vaccine therapy, contain nothing of a positive nature relating to the subject.

The proof of infection may be searched for by making the following tests:

1. Cultures of exudates from the joints and tissues about the joints.
2. Cultures from possible foci other than the joints (as evidenced by clinical manifestations).
3. Blood-cultures for a bacteriemia.
4. Blood tests for immune bodies, of which the complement-fixation test against autogenous antigens (obtained by the three preceding methods) and against exogenous antigens, is the most appropriate.

The first method is the only one which will prove absolutely that the joints and neighboring tissues have been invaded by bacteria. The second and third methods show an infection of the body with bacteria, and from this fact it is sometimes concluded, as with infective endocarditis ("malignant" and "ulcerative" endocarditis) that the bacteria isolated by Methods 2 and 3 are the cause of a local infection of which the focus cannot be submitted to bacteriologic investigation. Whether or not a positive result from Method 3 excludes a positive result from Method 4, or the opposite, has not yet been determined. It would seem, however, that a positive complement-fixation test for any one germ would exclude a possibility of obtaining a growth of that germ by culture from the blood.

In cases of chronic arthritis the first three methods have been employed by many investigators without result, while a few have found by the second method foci of infection with streptococci and other germs (Ball, Smith, Horder).

The papers on "A Study of Streptococci with the Complement-Fixation and Conglutination Reactions" by Swift and Thro,[7] and on the "Complement-Fixation Test in the Diagnosis of Gonococcic Infections" by Schwartz and McNeil[8] suggested the employment of complement-fixation tests against various strains of streptococcus, staphylococcus and gonococcus to determine the existence of bacterial infection in cases of chronic deforming arthrities.

In 1910 and early in 1911, four typical cases of arthritis deformans were searched thoroughly for foci of infection with the idea of isolating some germ, preparing an autogenous vaccine, and treating the cases with this vaccine in the hope that the chronic arthritis might respond to such specific therapy. The first case had been considered and treated as arthritis deformans for nine years, and in 1909 and 1910, for a period of eighteen months, had been given injections of gonococcus vaccine, since there was a history of a specific urethritis fifteen years previously. There was no favorable result from the gonococcus vaccine, and in the fall of 1910 the patient was emaciated, cachectic and wholly disabled. Cultures were made from the exudate obtained by massage of the prostate and a typical *Streptococcus mitior* was obtained on two occasions. The complement-fixation test for gonococcus was not carried out because the patient had received vaccine injections for over a year, and any blood may give positive reactions after three or four injections of gonococcus vaccine. The hope that the vaccine prepared from the streptococcus isolated from the prostate would prove effective was realized, for the first few injections of the autogenous vaccine, though small in dosage, produced focal reactions in the joints and after several months restricted the progress of the disease and restored to a great degree the joint motility and the general health.

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[1] Smith, L.: Glasgow Med. Jour., 1911, lxxv, 218, 288; Tr Med.-Chir. Soc., Glasgow, 1911, x, 51.

[2] Ball, C. P.: Brit. Med. Jour., 1911, i, 1105.

[3] Horder, T. J.: Lancet, London, 1912, i, 1053.

[4] Skinner, C. E.: Am. Jour. Med. Sc., 1910, cxl, 684.

[5] Bannatyne, G. A., and Lindsay, J.: Brit. Med. Jour., 1911, i, 192.

[6] Painter: Tr. Cong. Am. Phys. and Surg., 1910, viii, 244.

[7] Swift and Thro. A Study of Streptococci with the Complement-Fixation and Conglutination Reactions, Arch. Int. Med., January, 1911, p. 24.

[8] Schwartz and McNeil: Am. Jour. Med. Sc., 1911, cxli, 693.

Early in 1911 a second case of the same type was studied, in which there had been no response to a gonococcus vaccine, and an autogenous vaccine of a streptococcus from the prostate brought about a rapid improvement and ultimately an arrest and partial cure of the disease.

A third case likewise gave on two occasions positive cultures of streptococcus from the prostate, but was not treated specifically, except with gonococcus vaccine which had no beneficial effect.

In a fourth case, with chronic endometritis, *Staphylococcus albus* was obtained from the cervix uteri, but it could not be determined that this organism had to do with the joint condition.

These four cases were typically arthritis deformans of several years' duration. In Case 1, of nine years' duration, and Case 2, of fifteen years' duration, attempts were made to carry out complement-fixation tests, but owing to improper standardization of antigen the results were worthless. Since the fall of 1910 twenty-four cases of arthritis deformans have been investigated by Methods 2, 3 and 4. In none was a positive blood-culture obtained. In seven cases foci of infection were found and in twelve cases positive complement-fixation reactions were obtained. In twelve cases complement-fixation tests were negative, and in two of these positive cultures were obtained from foci of infection which could not be proved to have any relation to the disease.

In addition to the joint cases complement-fixation tests were made in eleven non-arthritic cases, as controls. For three cases of infective endocarditis in which the *Streptococcus viridans* (or *mitior*) was isolated from the blood, complement-fixation tests were negative. For one case of *Streptococcus pyogenes* septicemia in which *Streptococcus pyogenes* was isolated from the blood, the tests were negative. For one case of acute tonsillitis in which *Streptococcus viridans* was isolated from the tonsil, the tests were negative. For one case of secondary anemia (cause unknown) and for one case of "lumbago" the complement-fixation tests were negative. For two cases of lues, one secondary with a gonococcus arthritis, and one tertiary with an arthritis which cleared up under antisyphilitic treatment, complement-fixation tests for other bacteria than gonococcus were negative. In one case of chronic infective adenitis involving the lymph-nodes and soft tissues of the left cervical region, left axilla and mediastinum (simulating Hodgkin's disease) and in one case of simple purpura the complement-fixation tests were positive for three strains of *Streptococcus viridans.*

The blood from each case was tested for the Wassermann reaction and for complement-fixation against gonococcus, streptococcus (from three to twelve strains), staphylococcus and *Micrococcus tetragenus.* In a few instances the pneumococcus and *Micrococcus rheumaticus* (Poynton) were used. Twenty-two antigens were used at different times; *Streptococcus viridans* (*mitior*) 13 strains, *Streptococcus hemolysans* 1 strain, *Micrococcus rheumaticus* 1 strain, pneumococcus 1 strain, *Micrococcus aureus* 1 strain, *Micrococcus albus* 3 strains and *Micrococcus tetragenus* 2 strains. Of the *Streptococcus viridans* strains 6 came from the sockets or roots or gums of patients with pyorrhea alveolaris, 2 from the tonsils, 1 from the sputum, 3 from the blood and 1 from the prostate. The strain of *Streptococcus hemolysans* was isolated from the tonsil. The *Micrococcus rheumaticus* came from the Poynton stock. The strain of pneumococcus and one strain of *Micrococcus albus* were isolated from the sputum. The other strains of *Micrococcus albus* were obtained from the cervix uteri (1) and from the prostate (1). The *Micrococcus aureus* came from a tooth socket. The two strains of *Micrococcus tetragenus* were isolated from the cervix uteri.

The antigens were prepared by washing the surface of agar slant tubes with 0.85 sodium chlorid solution, shaking thoroughly and killing with heat at 60 C. for one-half hour.

For these bacterial suspensions the number of germs in millions per cubic centimeter was determined, sometimes by Wright's method and sometimes by mixing with a weak basic fuchsin solution in a blood-cell-counting pipette. It was found that standardization for complement-fixation was best carried out with a bacterial suspension of 1,000 million to the cubic centimeter and that, as a rule, from 0.1 to 0.3 c.c. should be used for the complement-fixation tests. This is the rule for the strains of *Streptococcus viridans.* The variations were from 0.05 to 0.3 c.c. For the tests as done in this laboratory the antigens were diluted 1 to 10 since one-tenth of the amount employed in the original Wassermann technic was used throughout. In other respects than the one-tenth dilution, the Wassermann technic was followed. This is similar to the method employed by Schwartz and McNeil. Throughout, the blood-serum of the patients was tested for 0.3, 0.2, 0.1 of a 1:10 dilution.

Of the typical cases of arthritis deformans, of from two to fifteen years' duration, six reacted to strains of *Streptococcus viridans.* From four of these cases the same organism was isolated from a tooth-socket after the extraction of teeth — in three of the four, complement-fixation tests were found positive before the infection of the alveolar processes was looked for. One of these cases reacted to gonococcus also. Four cases of typical arthritis deformans reacted to the gonococcus; one of them to streptococcus also. Three cases, which were classed from the history as infective deforming arthritis, reacted to the gonococcus. The deformities were typical of arthritis deformans. In twelve cases of typical arthritis deformans the tests were negative for the Wassermann reaction, and for the gonococcus, the streptococcus and staphylococcus. Improvement under treatment with injections of vaccine, considered specific on account of the complement-fixation tests, has strengthened the supposition that some cases of arthritis deformans are infective in nature and that the infecting germ may be a *Streptococcus viridans* or a gonococcus.

First Avenue and Twenty-Eighth Street.

Epileptiform Attacks After Salvarsan.—F. Lube describes a case of his own and cites twenty-four others from the literature in which injections of salvarsan were followed at periods varying from three days to three months by epileptiform attacks with the clinical picture of cerebral intoxication. He thinks the attacks were due to the salvarsan, but is unable to explain why certain individuals should be affected in this way while others are not. His report appeared in the *Dermatologische Zeitschrift,* 1913, xx, 8.

MEMBRANOUS STRICTURES OF THE ESOPHAGUS OF OBSCURE ETIOLOGY

WILLIAM LERCHE, M.D.
ST. PAUL, MINN.

The occurrence within a year of three cases of benign cryptogenic stricture of the esophagus has indicated that the condition may be of relatively frequent occurrence. These strictures have occurred in the cervical part of the esophagus in women, the youngest of whom was 32, and the other two 67 years of age.

When a middle-aged or elderly patient complains of difficulty in swallowing, it is apt to be diagnosticated offhand as due to nervousness or cancer, according to the length of time the trouble has lasted. Ocular inspection through the esophagoscope is the only method by which a positive diagnosis can be made in any esophageal disorder, and, in the cases to be presently reported, it would have been impossible to ascertain the pathologic condition in any other way.

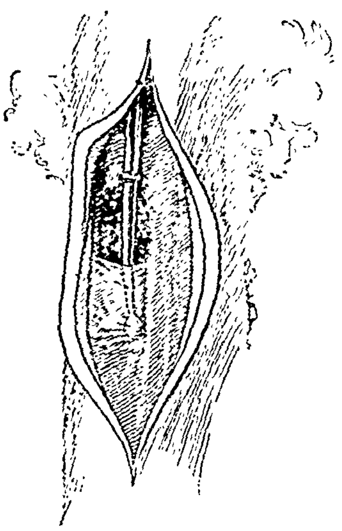

Fig. 1.—The pocket demonstrated by the probe with the movable end.

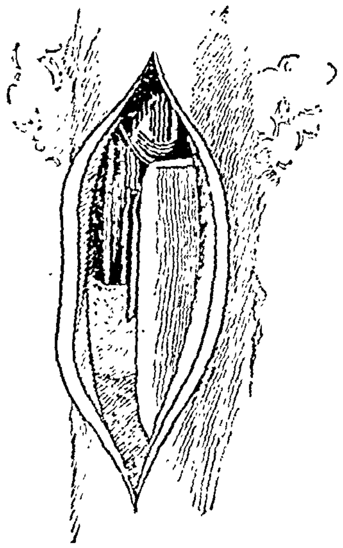

Fig. 2.—The esophagoscope in place, the pocket wall between the shields and the electrocautery at work.

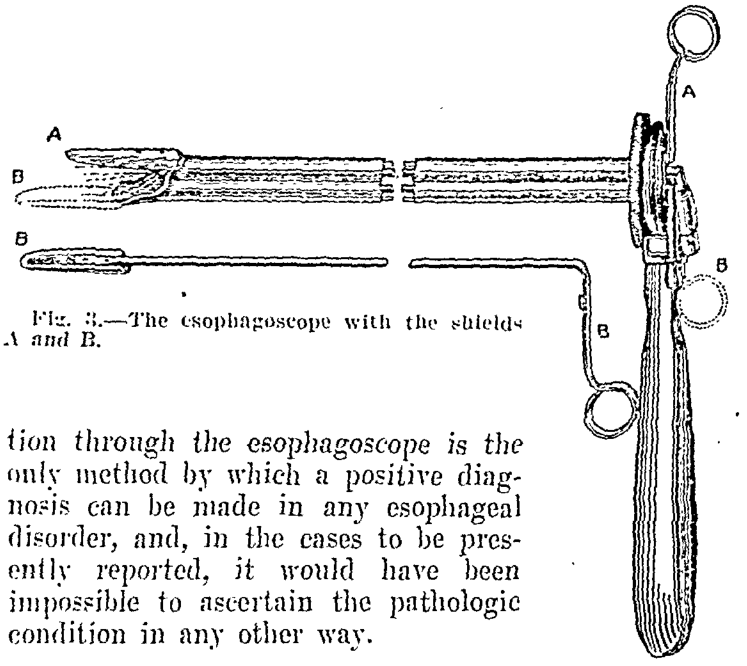

Fig. 3.—The esophagoscope with the shields A and B.

Case 1.—The patient was a woman aged 67 with fifteen children, one still-birth. The still-birth occurred at the age of 43, and was followed by sepsis from which the patient was ill for several months. More than eighteen years prior to consultation, she began to have difficulty in swallowing. For ten years she had been unable to take solid food; besides liquids she took mostly porridge made of very fine meal.

Examination.—An obstruction was met 20 cm. from the incisor teeth. A filiform whalebone bougie was introduced through my curved metal guiding tube, and on this a small bougie was passed. When the instrument was passed through the stricture it gave the sensation of tearing through a fairly thick membrane. Esophagoscopy revealed a membranous stricture with an opening posteriorly to the right close to the esophageal wall. A small superficial ulceration was seen just below the opening.

Case 2.—The patient, a woman, aged 67, had two children. She had never been strong, but had been healthy except for protracted and recurring diarrheas at about the age of 35 years. Nearly ten years prior to consultation, the patient began to have difficulty in swallowing. She chewed her meat and spat it out again. Of late she had been obliged to drink slowly, because otherwise the liquid would be apt to be regurgitated. Cold water would pass better than hot drinks.

Examination.—An obstruction was found 17 cm. from the incisor teeth. A flexible spiral bougie 11 F. could be passed. By esophagoscopy a membranous stricture was seen with a small opening to the left posteriorly, toward which the membrane seemed to be sloping down. The membrane to the right of the opening appeared to be on a somewhat higher level than that to the left, thus forming a fold.

Esophagoscopic examination after treatment showed remnants of the membrane.

Case 3.—The patient, a woman aged 32, had had one child, no miscarriage. About ten years prior to consultation she noticed that she could not swallow onions, and gradually it became difficult to swallow any solid food. For the last four years she had taken only soft food and liquids. She had to be very careful in eating because at times even fluids would be rejected. She frequently gulped up mucus.

Examination.—An obstruction was encountered 16 cm. from the incisor teeth. An opening was found that admitted an 11 F. flexible bougie. When a somewhat larger instrument was introduced it gave the sensation of passing through a membrane. Esophagoscopy revealed a membranous stricture partly opened. On the posterior wall of the esophagus, somewhat to the right, was seen a superficial ulceration and, at the lower part of this, a diverticulum or pocket, into which the ulceration extended, came into view. The pocket, which measured about 1 cm. in depth, had a thin front wall, apparently consisting of the mucosa only, and could readily be demonstrated by the aid of my probe with the movable end (Fig. 1). With the probe thick mucus could be milked out of the pocket by stroking its front wall.

Treatment.—In order to obliterate this pocket it was decided to burn through the front wall. For the protection of the surrounding parts I devised two ivory shields fastened to long brass spring wires, so that after the esophagoscope[1] was in place the shield A (Fig. 3), could be introduced through the esophagoscope into the pocket and attached to the short lip of the latter instrument, while the shield B in a similar manner was introduced into the lumen of the esophagus outside the pocket and attached to the long lip. With the front wall of the pocket thus between the two shields it was burned through with the electrocautery, under chloroform anesthetic (Fig. 2). This was followed by the proper after-treatment, and esophagoscopy a few months later revealed a quite normal-looking esophagus.

It is possible that the thin wall of the pocket had originated in the same way as the membranous stricture, but it was situated below the latter. On the other hand, it is possible that the mucosa at the lower edge of the ulceration had become detached, and that by constantly lodging mucus and other foreign substances, a pocket had gradually formed.

The latter condition is analogous to one seen by Kussmaul[2] at necropsy. A man, aged 27, had a cicatrix from chronic ulcer of pylorus and dilatation of the stomach. Between mucosa and submucosa from the edge of the cicatrix toward the lesser curvature there was a 12 mm. deep diverticulum.

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[1] Lerche, William: An Improved Esophagoscope, The Journal A. M. A., March 2, 1912, p. 619.

[2] Kussmaul, A.: Ueber die Behandlung der Magenerweiterung durch eine neue Methode mittelst der Magenpumpe, Deutsch. Arch. f. klin. Med., 1869, vi, 480.

The esophagoscopic examination of these cases may be facilitated by first introducing the long filiform whalebone bougie, and then the esophagoscope on this as a guide, in order to have the opening for a landmark. The probe with a movable end is of the greatest utility here.

The three patients whose cases are here reported are well, and perfectly normal in regard to swallowing.

628 Lowry Building.

SAHLI'S POCKET SPHYGMOBOLOMETER *

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In order to estimate the work or the energy of the pulse-wave and so indirectly the strength of the cardiac systole, Professor Sahli has devised and quite recently simplified a portable and clinically applicable instrument which he calls a pocket sphygmobolometer (bolos = a throw); see illustration.

A small rubber bag (*D*) is bound to the radial artery by the cuff (*H*). This bag is connected by small rubber tubing to a 10 c.c. syringe (*G*), to a horizontal blind manometer (*E F*) containing a kerosene index, and to a vertical, throttled mercury manometer (*A*). By means of the syringe the rubber bag is inflated, and the pressure on the contained air increased until the pulsations of the index in the blind manometer reach a maximum. The pressure of the air in excess of atmospheric pressure is then read on the mercury manometer. The initial volume of air contained in the different parts of the instrument and its connections is given for each instrument.

If V = volume ot the air at atmospheric pressure,
P = increase in pressure in centimeters of mercury,
B = mean barometric pressure (New York = 76.4 cm. of mercury),
(Δp) = change in pressure, expressed in centimeters of mercury, due to pulsations in the artery (this is obtained by observing the maximum pulsation of the *kerosene* index and then reducing it to centimeters of mercury in the manometer), and
density of mercury = 13.6 gm. per cubic centimeter,

then the work (W) done on the contained air by each pulse-wave may be expressed thus:

$$W = V\left(\frac{B}{B+P}\right)\left(\frac{P}{B+P}\right)(\Delta p)\ 13.6 \text{ gm. cm.}$$

The above equation is based *on Boyle's* or *Mariotte's* law which states that for a given mass of a perfect gas the product of the pressure (per unit area) and the volume is *constant* provided the temperature is constant: $p_1v_1 = p_2v_2 = constant$. Using the symbols given above we have

$$BV = (B+P)\,v$$

whence

$$v = V\,\frac{B}{B+P}$$

when v is the new volume under pressure.

The work done in compressing a gas, *for very* small changes in volume, is equal to the product of the applied pressure and the corresponding decrease in volume (p Δ v). If the gas is a perfect gas this work may also be expressed as the product of the volume and the change in pressure (v Δ p). The total work done in the above case is

$$V\,\frac{B}{B+P}\,(\Delta p)$$

But this work, as was pointed out by Christen, is done by the pressure of the pulse and of the atmosphere; hence the part done by the pulse alone is,

$$V\left(\frac{B}{B+P}\right)(\Delta p)\left(\frac{P}{B+P}\right)$$

If V is given in cubic centimeters and (Δ p) in centimeters of mercury, then to obtain the work in gram centimeters, the above must be multiplied by the density of mercury in grams per cubic centimeter which gives the final equation for the work done by a single pulse-wave on the air in the instrument.

The value of B may be assumed constant for any locality, and the volume, V, for any given instrument is constant. For convenience Professor Sahli has therefore calculated at pressures from 5 to 23 cm. a table of values for

$$\left(\frac{B}{B+P}\right)\left(\frac{P}{B+P}\right)13.6 = (F)$$

To this I have added another column representing (F × V) at these pressures, when V = 16.9 c.c. (the volume of my instrument). A similar column can be determined for any instrument and remains constant.

$$W = F \times V \times (\Delta p)$$

W = Work performed by each pulse-wave.
V = Volume of air in instrument No. 13 = 16.9 c.c.
(Δp) = Maximum oscillation reduced to cm. Hg.

$$F = \left(\frac{B}{B+P}\right)\left(\frac{P}{B+P}\right)13.6$$

B = *Mean barometric pressure* = 76.4 (New York)
P = Pressure in cm. Hg. at maximum excursion of kerosene index.

P.	F.	F. × V.
5	.78	13.2
6	.92	15.5
7	1.04	17.6
8	1.16	19.7
9	1.28	21.7
10	1.39	23.5
11	1.49	25.2
12	1.59	27.0
13	1.69	28.6
14	1.78	30.1
15	1.87	31.6
16	1.95	32.8
17	2.02	34.2
18	2.10	35.5
19	2.17	36.7
20	2.23	37.8
21	2.30	38.9
22	2.36	39.9
23	2.42	40.9

Thus each estimation requires but one multiplication: (Δ p) × (F × V), the figure in the third column, which corresponds to the pressure, P, for maximum excursions of the kerosene index.

In patients with very high systolic pressures it frequently happens that a larger volume of air is required before the increase of pressure in the instrument is sufficient to induce a maximum pulsation *in the blind* manometer. In such an event we either substitute a *20 c.c.* syringe or else cut off the connecting tube from the 10 c.c. syringe with the clamp (*J*), disconnect syringe, withdraw the piston, reconnect syringe, remove clamp and then exert more pressure. With either procedure the factor V must be increased by 10 c.c.

The accuracy of any single determination depends mainly on the reading of (Δ p), errors in the other terms being negligible in comparison. This involves a reading of the excursions of the kerosene index and a calibration of these excursions in terms of mercury. Computations show that under normal conditions, results obtained by an experienced observer cannot be relied on to better than 10 per cent.

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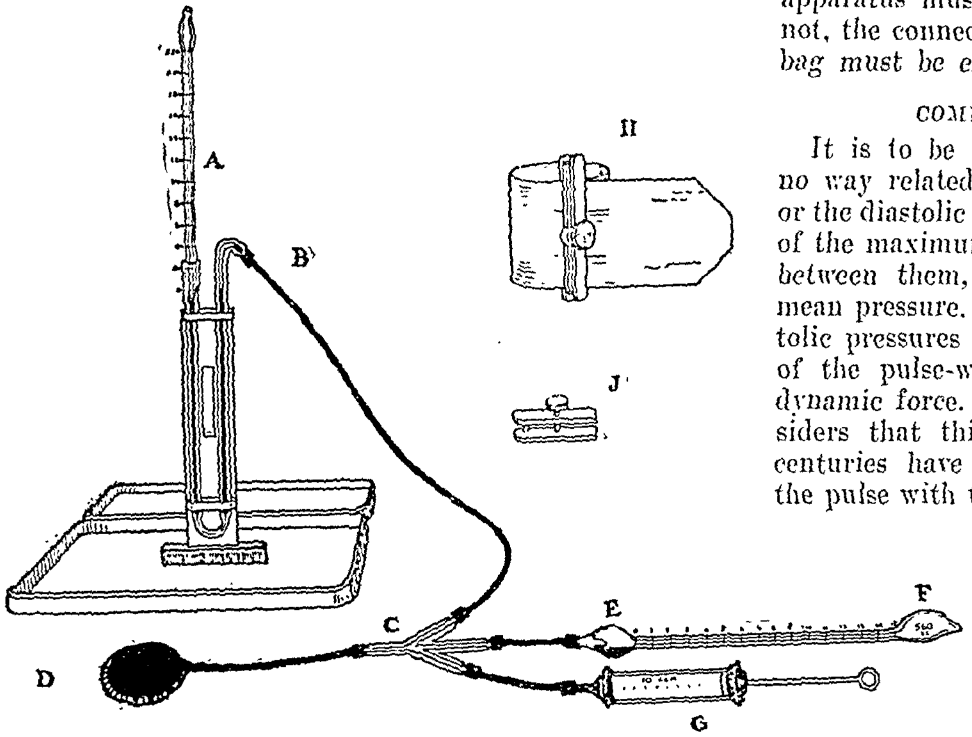
* Demonstrated at a meeting of the Medical Section of the New York Academy of Medicine, Nov. 19, 1912.

TECHNIC OF APPLICATION

The examiner sits at the right of the patient, both facing a table on which stands the instrument. The *extensor surface of the patient's right arm rests at the wrist on the table, his radial artery is marked out and* the rubber bag (*D*) is snugly bound to the wrist by the cuff (*H*) so that the edge of the bag's connecting rubber tube just projects beyond the cuff, and the tube lies parallel and slightly to the right of the radial artery. The piston of the syringe (*G*) should be at the 10 c.c. mark, the kerosene collected in the proximal bulb (*E*) *of the blind manometer, and the mercury in the vertical* manometer (*A*) at zero. With the connections tightly made, the index manometer (*E F*) is held vertically (care being taken to avoid touching the distal bulb [*F*] *and* so heating and expanding the contained air), and slight pressure is applied by the piston. The index manometer is quickly inverted, and the pressure is continued until an index of from 2 to 4 cm. is formed. The index manometer is then laid horizontally on a sheet of white paper on the table, and the pressure is increased until the index begins to pulsate. The cuff is now tightened to see if the pulsation will increase at the same pressure. Practice with the application of the cuff soon enables one to apply it properly at once, and so obviates this delay. Pressure is quickly continued until the excursion of the index reaches a maximum and begins to decrease. As soon as a decrease is noted the pressure is very guardedly released until the maximum excursion is again obtained and its extent noted. The height of the mercury column corresponding to the point of maximum pulsation in then read (*P*) and the extent of the maximum excursion is converted into terms of centimeters of mercury. This is quickly accomplished by raising or depressing the kerosene index 3 cm. of the blind manometer, noting the corresponding height of the mercury column, calculating the difference between these two heights of mercury, dividing by 3 and multiplying this result by the extent of the index excursion thus: *If the maximum excursion of the index is 0.7* at 15.0 cm. Hg, and if by depressing the index 3 cm. the corresponding height of the mercury column is 12.6 cm., the difference = 2.4, one-third = 0.8, and (Δp) would *then equal* 0.8×0.7, or 0.56 cm. Consulting the table we see that in this supposed case, according to the equation $W = F V \times (\Delta p)$ when F V at 15 cm. = 31.6; and so $W = 31.6 \times 0.56 = 17.7$ cm. Hg. Rapidity is essential to the accuracy of the test. With *practice the entire procedure requires no more time than does an estimation of the systolic and diastolic blood-pressures. It sometimes happens that the index is split up into small subdivisions along the capillary* tube or that the kerosene collects in the distal bulb (*F*) of the blind manometer. To correct the latter it is necessary only to invert the manometer with the distal bulb (*F*) *upward and to rotate the instrument gently until the kerosene gradually flows down into the collecting bulb at the proximal end.* In case of the index *splitting, a few strokes of the piston back and forth* will suffice to suck it back into the bulb (*E*). The entire apparatus must, of course, be absolutely air-tight. If not, the connections, the syringes and finally the rubber *bag must be examined and the leak corrected.*



Sahli's pocket sphygmobolometer.

COMPARISON WITH OTHER METHODS

It is to be understood that this measurement is in no way related to the estimation of either the systolic or the diastolic blood-pressure. The pressure at the point *of the maximum excursion of the index lies somewhere between them, and does not even correspond to the* mean pressure. Pulse-pressure, systolic, mean and diastolic pressures are static conceptions, whereas the work of the pulse-wave or the energy of the systole is a dynamic force. The distinguished Swiss clinician considers that this measurement is what physicians for centuries have endeavored to determine in palpating the pulse with the finger; and he believes that a reasonably exact estimation of this dynamic force will give us new *information concerning the condition of the circulation, and will be of great value* in many pathologic conditions. He adds that an attempt to estimate the condition of the circulation from sphygmomanometric measurements is as futile as it would be to try to calculate the horse-power of a locomotive or even the speed of a train from the measurement of the steam pressure in the boiler. *Even if we know* the difference between the pressure of steam entering and leaving the cylinders of an engine we are still wholly ignorant of the work which the engine is doing. In Sahli's original communication,[1] again in the fifth edition of his textbook,[2] and in all his later communications[3] until very recently, the instrument described was so cumbersome that most of his readers questioned its clinical applicability. The simplicity of the above-described instrument, its portabilty and the ease with which it can be employed need no further discussion.

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[1] Sahli: Deutsch. med. Wchnschr., 1907, No. 16, p. 628; No. 17, p. 665.

[2] Sahli: Diagnostic Methods, edited by Potter, W. B. Saunders *Company*, Philadelphia, Ed. 2.

[3] Sahli: Deutsch. med. Wchnschr., 1910, No. 47, p. 2181. Christen: Ztschr. f. klin. Med., 1910, lxxi, 390. Sahli: Ztschr. f. klin. Med., 1911, lxxii, 1. Sahli: Ztschr. f. klin. Med., 1911, lxxii, 214. Christen: Ztschr. f. klin. Med., 1911, lxxiii, 55. Christen: Deutsch. med. Wchnschr., 1911, No. 14, p. 644. Christen: Cor.-Bl. f. schweiz. Aerzte, 1911, p. 562. Sahli: Ztschr. f. klin. Med., 1912, lxxiv, 230. Christen: Ztschr. f. klin. Med., 1912, lxxiv, 477. Sahli: Lehrbuch der klinischen Untersuchung Methoden, i, 217, 742, Franz Deuticke. Leipsic and Vienna, 1913, Ed. 6.

In interpreting sphygmobolometric measurements it is evident that we must carefully distinguish between work accomplished and functional capacity. The instrument measures not the amount of work which the heart is capable of performing under increased demand, but the amount which its actually performs at a given moment; for example, the work of a healthy person's systole while sitting quiet may be very small, but the vigorous demand of severe muscular exercise will show in a much higher figure for (W), a capacity for a greatly increased work; whereas a functionally damaged heart may show a diametrically opposite condition, a much higher figure while at rest, but a prompt fall after even moderate muscular exercise, such as climbing one flight of stairs.

Clinical experience will soon show whether this new method is to bring valuable help in estimating the character and capacity of the circulation, first in varied diseases and second in following the course of a disease like pneumonia or typhoid fever, which so often lays an unduly heavy tax on the circulation.

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THE BACTERIOLOGY AND BACTERIOTHERAPY OF RENAL CALCULUS AND ITS SEQUELS

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DETROIT

The concurrence of bacteriuria and urinary calculi has long been known, and the opinion that some varieties of calculi, particularly the phosphatic, might result from microbic agencies has also been held. It is only going a step further, as Wright said in his introductory address on Vaccine Therapy, before the Royal Society of Medicine,[1] May 23, 1910, to search for a bacterial cause in connection with every case of urinary calculus. On the occasion of this particular lecture Wright reported on four cases, observed in the course of the daily routine work in the department of therapeutic immunization at St. Mary's Hospital, in which bacteria were discovered in the urine, and in which nephrolithiasis also existed. Recognizing the authority of this distinguished bacteriotherapeutist, and since the cases correspond so closely to those that have fallen to my observation, I shall quote Wright's report[2] as follows:

WRIGHT'S CASES

Case 1.—A medical man who had suffered for years from a bacteriuria, which furnished in every case a pure culture of staphylococcus, developed a renal calculus and was operated on.

Case 2.—The daughter of a medical man, who had undergone an operation for renal calculus which resulted in the removal of twenty-one oxalic acid calculi from the pelves of the kidneys, was brought to me with a view to something being done to prevent a recurrence of her troubles. A series of cultures made from the urine furnished in each case a copious growth of staphylococcus.

Case 3.—A patient whose urine had for years furnished on each occasion a pure culture of a coliform bacillus, and who had undergone vaccine treatment for this, developed symptoms of renal calculus. The operation revealed the presence of a stone, and cultures made from the pelvis of the kidney furnished copious cultures of staphylococcus. A similar operation for calculus, undertaken twelve months later on the other kidney, again furnished a culture of staphylococcus.

Case 4.—A patient who had been admitted to the inoculation wards at St. Mary's Hospital for the treatment of a deep and extensive ulceration caused by a combined syphilitic, streptococcal and staphylococcal infection, developed symptoms of renal colic. Roentgenographic examination showed the presence of a stone in the pelvis of the right kidney, and a similar calculus in the right ureter. An examination of the urine revealed the presence of staphylococci in fair numbers.

It will be seen that in but one of these cases does Wright mention a trial of therapeutic immunization by means of autogenous bacterial vaccines, though it is possible that at the time of making his report, or subsequently, he resorted to it in others. At any rate this is the only mention of the coexistence of bacteriuria and nephrolithiasis that I can find in the literature of bacteriotherapy, and nowhere have I discovered another report dealing with the treatment of calculous bacteriuria and pyuria by means of autogenous bacterial vaccines such as is here to be presented, based on a personal experience now dating back four years.

Since, on the whole, the outcome of bacteriotherapy has been so satisfying in the treatment of a morbid condition that has hitherto been largely neglected, I am in hopes that the following record of my observations will stimulate a more searching examination of all cases of non-neoplastic renal colic, renal calculi, non-tuberculous pyuria and bacteriuria from the point of view of their bacteriology, and of the possibility of beneficial results following a trial of autogenous bacterial vaccines either alone, before or after operative treatment.

AUTHOR'S CASES

Case 1.—Distressful urination. Attack simulating appendicitis. Colon bacillus bacteriuria and pyuria. No immunizing response to autogenous vaccines. Probable right-sided ureteral calculus.

Mrs. J. H. J., wife of a physician, had for some years experienced irritability of the bladder though her general health did not suffer. Several years before consulting me she had an attack of right-sided abdominal pain so severe as to suggest to the attending physician an appendicitis; operation was proposed but not instituted. Immediately after the birth of her first child the frequency of urination and tenesmus increased so that a fear was entertained that the urethra had been injured during labor. Frequent and painful urination persisted, and at the time of my first examination, May, 1909, the urine was found to be acid, to contain a moderate amount of pus and large numbers of a bacillus of the colon group (specifically *Bacillus pyogenes foetidus* in pure culture. To eliminate the possibility of a tuberculosis, a guinea-pig was inoculated with 0.5 c.c. of pus from the centrifuged urine, but it was killed in twelve hours by the coliform bacilli. Inoculations of autogenous vaccine, varying in dose and frequency over a period of three months, failed to modify the symptoms. In September a Philadelphia roentgenographer found a shadow indicating a calculus at the vesical end of the right ureter (or a phlebolith), and a subsequent Roentgen examination by a Detroit specialist confirmed this finding and strengthened the presumptive diagnosis of an obstructive calculosis of the right lower ureter. A course of local bladder treatment by solution of silver salts has been pursued by a gynecologist, but at present the patient still suffers from bladder irritability. I believe that the mechanical obstacle of the ureteral stone accounts for the failure of vaccine therapy in this case.

Case 2.—Frequent painful urination. Pyuria. Colon bacillus bacteriuria. Ureteral calculus. No bacterial therapy.

Mr. G. T. M., merchant, aged 45, consulted me in August, 1909, for pain and frequency in urination without marked impairment of general health. I found the urine to be acid, cloudy, containing pus and mucus, and yielding abundant bacilli of the colon group in pure culture. A Roentgen-ray examination disclosed a shadow suggesting to the roentgenographer a calculus in the lower end of the left ureter. This stone proved to be so located that it could be felt by digital rectal examination. No vaccine therapy was instituted in this case, and no operative procedure. So far as I can learn, this patient is still in a fair state of general health.

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[1] Wright, A. E.: Vaccine Therapy, Its Administration, Value and Limitations, Lancet, London, Sept. 17, 1910.

[2] Wright, A. E.: Vaccine Therapy, Lancet, London, Sept. 17, 1910.

Case 3.—Left-sided renal colic. Painful frequent urination. Impaired general health. Pyuria and bacteriuria (staphylococcus). Negative roentgenography. Autogenous vaccine therapy and symptomatic recovery.

Mr. B. B., non-resident, a young unmarried farmer, was referred to me May 25, 1911, with a history of discomfort in urination dating back about two years. Soon after this discomfort began, a severe left-sided attack of renal colic occurred, with excruciating pain in the left hypochondrium extending to the suprapubic region, lasting two hours, accompanied by nausea and abruptly abating but leaving a dull ache in the left side for several days. After this attack the frequency and pain of urination increased, necessitating evacuation of the bladder every hour during the day and several times at night. These symptoms and a loss of weight amounting to 10 pounds were in evidence when the patient consulted me. I found the freshly voided urine to be faintly acid, cloudy and to contain pus. Smears of this pus stained for tubercle bacillus were negative, and no other bacteria could be identified in them. Agar plate-cultures with 1 c.c. of the fresh urine yielded about 150 colonies of a pale yellow, non-liquefying staphylococcus which I classed as *Staphylococcus pyogenes flavus*, and from it a vaccine was prepared. A von Pirquet skin-tuberculosis test being negative, and a negative report being furnished as to the presence of shadows indicating calculus by a roentgenographic specialist, I began inoculations of the autogenous staphylococcus vaccine in doses of 100 to 200 millions. After satisfying myself as to the dosage and interval to sustain the beginning symptomatic improvement, I sent the patient home, where his local physician continued the inoculations at weekly and later biweekly intervals. A year later the young man returned to me in robust general health, having in the meantime married. He urinated painlessly at normal intervals. I found the urine acid, clear and pus-free, but still yielding ten or fifteen colonies of staphylococci in agar plate-cultures made with 1 c.c. From these cultures a new autogenous vaccine was prepared and used by his local physician for a few months. At present the patient's health is perfect.

Case 4.—Repeated left-sided renal colic and calculi with hematuria. Dull pain in the left hypochondrium. Irritable bladder. Pyuria. Bacteriuria (staphylococcus). Vesical calculus by Roentgen ray. Operative removal. Persistent distressful urination. Autogenous staphylococcus inoculations. Colon bacillus bacteriuria. Autogenous vaccine therapy and symptomatic recovery.

J. T., aged 52, non-resident, a blacksmith of unblemished personal history, was referred to me in January, 1912. During twenty years preceding he had passed five or six urinary calculi at intervals, always after attacks of left-sided renal colic and with hematuria after some of them. Throughout this period he had experienced more or less discomfort in urinating, and this gradually became worse until he found it necessary to urinate every fifteen minutes in the daytime, and a number of times at night. Unless the bladder could be speedily emptied there was incontinence of urine. The general health suffered, and when he first came to me his weight had fallen from 180 to 158 pounds. The urine was found to be diffusely cloudy (pus), of acid reaction, and yielding from 500 to 1,000 colonies of a pale yellow staphylococcus (*S. pyogenes flavus* or *citreus*) in pure plate-culture. An autogenous vaccine was prepared from this staphylococcus. Believing the extreme bladder irritability to arise from a vesical calculus, I had a roentgenographic examination performed, resulting in the locating of an almond-sized calculus at the base of the bladder. The calculus was removed by a local surgeon who performed suprapubic cystotomy in February, 1912. In the meantime I had given two inoculations of the autogenous staphylococcus (100 millions), and while there was a betterment of the uncomfortable urination after the operation, relief was not complete. Inoculations at from five- to seven-day intervals were performed by the local physician, but in April the patient returned to me still complaining of frequent unsatisfactory urination. I found the urine still cloudy, with some pus, and in the plate-cultures I was astonished to find vast numbers of colonies of a bacillus of the colon group and no staphylococci. From this colon bacillus, autogenous vaccine was prepared, standardized at a dose of 50 millions at weekly intervals, and with this the patient returned and continued treatment at home. In February, 1913, the patient returned at my request, reporting the continued inoculations at biweekly intervals. I found the urine clear but still containing numerous colon bacilli. Urination now occurs at normal intervals and without distress. The general health is excellent—"better than for years"—and the patient weighs 185 pounds, notwithstanding the stress of his trade. A fresh vaccine has been prepared, and directions given for continuing the inoculations at intervals of one or two weeks.

Case 5.—Vague right-sided abdominal pain. Renal colic and temporary obstruction of the right ureter. Frequent painful urination. Impaired general health. Negative roentgenography. Pyuria and bacteriuria (staphylococcic). Autogenous vaccine therapy and symptomatic recovery.

Mrs. P. G. K., aged 31, secundipara, was referred to me by a local surgeon, Jan. 20, 1912, after his examination by thorough Roentgen-ray exploration had convinced him of the non-existence of urinary calculus. The patient complained of frequent, unsatisfying urination both during the day, and at night to break her rest. Her health was somewhat impaired and she had lost ten or more pounds in weight. In November, 1908, while living in another city, she first noticed a disagreeable aching sensation in the right side of the abdomen. The following March a sudden attack of excruciating pain "under the ribs" on the right side occurred which lasted for several hours and ceased, to be followed by hematuria. The next day she went to a hospital and her physician thought she had passed and overlooked a calculus; but the right kidney was found swollen and an operation was under consideration when the swelling suddenly subsided. During her two weeks' stay at the hospital a Roentgen-ray examination failed to locate a calculus. Now followed the distressing frequency of urination which continued until she moved to Detroit and consulted the surgeon referred to. My examination of the fresh urine obtained by aseptic catheterization showed it to be acid, cloudy, containing pus and staphylococci (*S. pyogenes albus*), and yielding several thousand unmixed colonies on agar plate-cultures made with 1 c.c. Autogenous vaccine was prepared from the pure cultures. The first dose, Jan. 24, 1912, of 100 millions caused a negative phase with increased micturition and tenesmus lasting till nearly midnight. Next day a marked relief of urinary distress was noted which lasted four days. The second dose of 150 millions proved too large, since an aggravation of the familiar symptoms lasting eight days was caused. Finally a dosage of the 50 millions at intervals of five days was settled on, and steady improvement began, which in three months had entirely relieved all former symptoms. At this time the patient left Detroit for a summer's visit, taking some of her vaccine along and using a few more doses. At this writing, a year since treatment began, the patient reports a perfect freedom from urinary trouble, a splendid state of health and gain in weight, and a clear (presumably pus-free) urine.

Case 6.—Repeated renal colic, right and left sides. Bacteriuria (staphylococcic) after last two attacks. Autogenous vaccine therapy.

Mr. J. C., railroad official, aged 47, was under my treatment for chronic nasopharyngeal catarrh when he suffered two attacks of renal colic, the last making the fifth of its kind that he had experienced. His first colic, right-sided, occurred in 1901, the pain lasting from twelve to fourteen hours; after this attack no stone was found, nor was a calculus discovered after any of the succeeding attacks. In December, 1904, another right-sided renal colic of sixteen or eighteen hours' duration was suffered, followed by a similar seizure of thirty-six hours' duration in April, 1905. In February, 1912, there was another right-sided renal colic of five hours' duration, and a few days after this attack I made plate-cultures of the fresh acid urine and obtained about 100 colonies of a yellow staphylococcus (*S. flavus* or *citreus*) from 1 c.c. No inoculations were employed on this occasion, but when in May, 1912, another five-hour renal colic occurred, this time left-sided, and when the same staphylococci were found in the urine afterward, an autogenous vaccine was prepared and inoculations were commenced, June 10, and continued at intervals of one or two weeks, in dosage of from 50 to 200 millions until January, 1913. A recent examination resulted in obtaining a single colony of the yellow staphylococcus in an agar plate laid with 2 c.c. of freshly voided urine. While no further renal colic has been experienced it is not, of course, presumed that the possibility of nephrolithiasis has been abolished.

CASE 7.—Renal colic. Vague backache. Uncomfortable and frequent micturition. Bacteriuria (colon bacillus). Autogenous vaccine therapy. Symptomatic recovery.

Mrs. J. B., non-resident, aged 54, first consulted me with reference to a chronic empyema of the antrum of Highmore; April 20, 1911, for which autogenous bacterial vaccine therapy was instituted by me and continued by the local physician. Aug. 29, 1911, the first attack of renal colic began in the morning with pain in the left hypochondrium continuing all day and getting worse during the night, when the family physician was summoned and made the diagnosis. Nausea was followed by vomiting which continued at half-hourly intervals till 9 p. m. of August 30; at 4 p. m. the first urine "red as blood" was passed; and at 5 a. m., August 31, the second urine was voided with blood and "a tablespoonful of little red stones the color of brick." After a week in bed the patient gradually regained her usual health except for occasional dull pain in the left hypochondriac region. In June, 1912, a severe urticaria to which the patient had been subject since childhood began and speedily assumed the type of angioneurotic edema, especially pronounced in the legs, and leading to an examination of the urine and a presumptive diagnosis of acute nephritis. The hives continued for some weeks, resisting all treatment, and during this time difficulty in urination with more or less discomfort began, together with occasional dull pain in the region of the left kidney, and vomiting now and then. At the same time the woman's health failed until she had lost 15 or 20 pounds when she returned to Detroit, Nov. 18, 1912. On examining the fresh urine obtained by aseptic catheterization I found it to be diffusely cloudy and acid in reaction. The cloudiness proved to be due to the contained bacteria which, in a plate-culture were found to be of the colon group and so numerous that a plate prepared from 0.1 c.c. of urine was so thickly sown as to make accurate computation impossible. From the autogenous colon bacilli a vaccine was speedily prepared and the first inoculation of 100 millions performed. In twenty-four hours relief was experienced in the frequent and annoying urination, and by the end of the week when a second inoculation was performed the vague backache and discomfort in micturition were decidedly better, and with improved appetite and general tone 3 pounds in weight were gained. The patient then returned to her home, where the inoculations were continued at first at weekly intervals, and later biweekly until the present, when the patient reports that except for a backache and the passage of "red" urine for two days, her improvement has been uninterrupted. She has regained her normal weight and strength.

CASE 8.—Attacks of abdominal pain mistaken for appendicitis and cholecystitis. Appendectomy without relief. Frequent uncomfortable urination. Colon bacillus bacteriuria. No calculi by Roentgen ray. Autogenous vaccine therapy. Symptomatic relief.

Mrs. F. W., aged 35, non-resident patient, consulted me Nov. 22, 1912, with reference to a nervous, "run-down" condition, and frequent unsatisfactory micturition. Two years before she had an attack of central and right-sided abdominal pain which a surgeon diagnosed as due to appendicitis and for which appendectomy was performed. A month after the operation the same pain returned and the surgeon then revised his diagnosis to gall-stone colic, and proposed gall-bladder operation, which was not permitted. These attacks of abdominal pain, mostly central, but at times right-sided prostrating in their severity, and accompanied with nausea or vomiting, continued until the patient consulted me. During the last year it had been noticed that micturition became more frequent and was often followed by a sense of discomfort, more pronounced soon after the abdominal attacks. In my first examination I found the acid urine voided through a sterile catheter to be diffusely cloudy, the lack of clarity again being due to the excessive number of bacteria, which in agar plate-cultures immediately prepared proved to be bacilli of the colon group in pure cultures. From these cultures an autogenous bacterial vaccine was prepared, and the first inoculation of 50 millions was performed Nov. 29, 1912. A sharp negative phase with nausea, anorexia, diarrhea and aggravation of the discomfort in urination persisted for twenty-four hours, followed by a betterment of the previous symptoms. December 5, before the second inoculation was performed, a careful Roentgen-ray examination was made by an expert radiographer, who found no shadows indicating urinary calculi. From this date to Feb. 8, 1913, inoculation in doses of 50 to 75 millions was continued; in this period (two months) no further attacks of abdominal pain had been experienced; and a marked relief of the frequent and uncomfortable micturition also ensued. Feb. 8, 1913, immediately following a menstruation, a mild attack of abdominal pain was noticed and on the patient's return I found the freshly catheterized urine clear, but still containing colon bacilli, though in greatly reduced numbers. The inoculations are being continued in the patient's home, and the last reports are of steady gain in health.

SYMPTOMATOLOGIC REVIEW

It will be seen from the foregoing account that a history of one or more attacks of renal colic was obtained in five of the seven cases, and that the clinical phenomena attending these attacks were so like the classic description as to make further comment superfluous. But in no case was it the renal colic which led these patients to consult the physician who referred them to me or to apply to me for treatment. In all but one it was the distressful micturition — the frequent, painful, unsatisfactory passage of urine with its resulting tenesmus — that became burdensome, and in several of the patients contributed to affect the general health. Moreover, this discomfort in urination was present alike in the patients whose stones had long before been passed (at least so far as negative roentgenography could determine), those in whom these had been removed by operation, and those in whom a calculus could still be demonstrated by roentgenography. It was the outstanding symptom in the cases of non-calculous bacteriuria.

Another symptom-complex which particularly emphasized itself on me is shown in two of the cases (Cases 1 and 8), namely, vague abdominal pain simulating appendicitis with bacteriuria (Case 8), or with bacteriuria, pyuria and calculus (Case 1). In one of these patients the abdominal pain was of such a nature as to lead to the diagnosis of appendicitis and proposal for operation, when apparently the pain marked the passage of a calculus from the right kidney to find lodgment in the corresponding ureter. In the other patient appendectomy was performed, but the pain for which relief was sought returned, leading the surgeon to suggest biliary calculi, and to propose a cholecystotomy. Here the first break in the periodically recurring attacks of pain followed the inauguration of bacterial vaccine therapy.

RESULTS OF BACTERIAL VACCINE TREATMENT

Conclusive deductions as to the value of bacterial vaccine therapy in the sequels of nephrolithiasis cannot be drawn from the cases here recorded. Their number is necessarily small though they comprise all the patients with this particular affliction who came to me in the course of a routine private special practice devoted to therapeutic immunization with bacterial vaccines as directed to infections generally. But as would naturally be supposed, these cases were all scrutinized from the point of view of their bacteriology; and with operative measures either not indicated, or already prosecuted without affording relief, and with the failure of various kinds of internal medication and local treatment, it was quite natural that I should have tested the therapeutic effect of inoculations with autogenous bacterial vaccines.

From the point of view of symptomatic relief, especially in the matter of distressful micturition and the accompanying failure of general health, I have been most favorably impressed by my experience in treating the sequels of renal calculus by the method of autogenous vaccine therapy.

That therapeutic inoculations of bacterial vaccines will in any way modify the production of urinary calculi is an open question. And of course it is almost superfluous to add that this mode of therapy in no way alters the matter of surgical intervention in those cases in which the operative indication, in the light of expert surgical judgment, is clear.

Whether bacteriuria can be abolished by the prolonged use of bacterial vaccines of autogenous origin is also undetermined, though the available evidence suggests that such an achievement would be the exception. In several of my cases the patients considered themselves well and did not return so as to permit a final bacteriologic analysis; but in the various subsequent examinations I still found the offending bacteria in the urine, though usually in greatly reduced numbers, even when a perfect symptomatic recovery had been achieved. It is especially on this account, I believe, that a conservative attitude should be maintained relative to the possibility of preventing nephrolithiasis by bacterial vaccine treatment.

TECHNIC

In all cases the bacteriologic analysis was immediately begun on the freshly evacuated urine. With women the urine was obtained by aseptic catheterization of the urethra; in men by micturition into a sterilized receptacle, the first portion being ignored, and the stream of the middle portion being so directed as to enter the receptacle without touching anything else. I have been surprised to find how effective this simple procedure of direct urination proves to be in studying the bacteriology of urine in the male. With normal individuals sterile plates are the rule when laid with ordinary amounts (1 or 2 c.c.) of fresh urine thus obtained; and even the presence of the so-called urethral (white) staphylococci is rare.

Agar plate-cultures were prepared with varying quantities of urine, usually from 0.1 c.c. to 1 c.c.; and when there was reason to suspect an abundant bacteriuria, as in the case of marked turbidity, ordinary agar-slants were streaked with a single loopful of urine, working the loop up and down one side and proceeding thus across the surface of the slant to the opposite side, resulting in thickly sown colonies on one side and isolated, pure colonies on the other (the modified Banti-Grosglick method).

Vaccines were prepared either from the first generation of pure cultures when laid on agar-slants, or from the second generation from plates, transplants being taken from several colonies to secure the possible "varieties." The bacterial emulsion was killed by heating for half an hour at 60 C. (140 F.), diluted with sterile water, and preserved by adding 0.2 per cent. trikresol. The first dose of vaccine was numerically approximated by the differential density method, and subsequently standardized by the response to inoculation both as regards the local reaction and the symptomatic effect. When treatment was prolonged, fresh autogenous vaccines were prepared as occasion required.

CONCLUSIONS

The routine bacteriologic analysis of all cases of renal calculus and the associated pyuria and bacteriuria are emphasized.

Therapeutic immunization with autogenous bacterial vaccines should be attempted in non-operative cases of calculous pyuria and bacteriuria for the relief of bladder irritability and impaired general health, and in cases in which there has been operation, when these symptoms persist unduly.

24 Broadway.

THE TREATMENT OF AMEBIC DYSENTERY WITH SUBCUTANEOUS INJECTIONS OF EMETINE HYDROCHLORID

REPORT OF SIX CASES

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A new treatment of amebic dysentery is of particular importance to physicians in the Gulf states because of the frequency with which the disease is met in practice. It was therefore with much interest that I read the reports of the treatment of amebic dysentery with soluble salts of emetine by Dr. Leonard Rogers of India. My clinical experience with ipecac in amebic disease, while limited to thirty cases, led me to look on this drug as practically specific when administered in sufficiently large doses (60 to 100 grains daily).

In 1911 I made some experiments,[1] at the suggestion of Dr. George Dock, to test the specificity of ipecac on amebas *in vitro.* These experiments failed to demonstrate any specific action, probably because the ipecac used, as I later discovered, was much below the pharmacopeial standard in total alkaloids (emetine, etc.). Still another cause of failure was the employment of watery suspensions of ipecac, in which the drug is but slightly soluble. About a month previously, Vedder,[2] working independently in the Philippines, reported his experiments with ipecac in which he showed that emetine was in all probability the active principle of ipecac as regards its destructive action on amebas.

ROGERS' EMETINE TREATMENT

Using Vedder's experimental findings as a basis, Rogers developed the emetine treatment. His first article[3] appeared in June, 1912. In this he reported three cases treated hypodermatically with emetine hydrochlorid with striking success. In August of the same year[4] he published his further experiences of the specific, curative action in amebic disease of the hypodermic injections of soluble emetine salts. Twelve cases were described with two deaths. At necropsy gangrene of the bowel was found in one and multiple liver abscesses in the other. Of the remaining cases (cures), two were complicated with hepatitis, two with single liver abscesses and one with splenic abscess. The next publication appeared in October.[5] In this Rogers compares twenty-four cases of amebic dysentery treated with soluble salts of emetine, with thirty consecutive cases in which ipecacuanha was used. The following tabulation shows the result:

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[1] Lyons, Randolph: Observations on the Effect of Ipecac, Phenol and Salicylic Acid on Amebas in Vitro, Read Before the Am. Soc. Trop. Med., 1911.

[2] Vedder, E. B.: A Preliminary Account o Undertaken to Test the Efficiency of the Ipecac tery, Bull. Manila Med. Soc., March, 1911.

[3] Rogers, Leonard: The Rapid Cure of Amebic Dysentery and Hepatitis by Hypodermic Injections of Soluble Salts of Emetine, Brit. Med. Jour., June 22, 1912, p. 1424.

	Ipecac	Emetine
Died from dysentery within 3 days of admission	4 patients	2 patients
Died from dysentery over 3 days after admission	7 patients	0 patients
Died from other diseases after cure of dysentery	0 patients	2 patients
Removed from hospital in very bad condition	2 patients	0 patients
Left hospital unchanged or not cured	4 patients	0 patients
Cured	13 patients	20 patients
Average days in hospital of cured patients	16.4	7.2
Average days before stools became normal	11.4	2.35
Grains of ipecac or emetine to that time.......	406	2.

Rogers' last article[6] appeared in December, 1912. Here the new treatment is reviewed and discussed. Still more recently Allen[7] reported two cases of amebic dysentery treated with emetine. Both patients were apparently cured. The second case required 12.3 grains of emetine hydrochlorid. No mention is made in regard to the subsequent history of the patients.

After careful perusal of Rogers' papers, one cannot help being impressed by the rapid results obtained by the new treatment. Certain questions, however, arise: First, what are the shortcomings of the older ipecac treatments? Second, what are the supposed advantages of Rogers' method of treatment? Lastly, does it cure?

SHORTCOMINGS OF OLDER METHODS

No matter how enthusiastic one may be in regard to the treatment of dysentery with ipecacuanha, it must be admitted that the modes of administration are crude and cumbersome. Because of its emetic action, to give it in liquid form is practically out of the question. To overcome this objection, the powdered drug is put up in salol- or keratin-coated pills in order that they may pass through the stomach undissolved. Of the two coatings salol (phenyl salicylate) is to be preferred[1] because of its bactericidal and amebicidal properties. Each salol-coated pill contains 5 grains of ipecac and the dose of ipecac is from 60 to 100 grains (adult) daily for at least a week, that is, from twelve to twenty bulky pills each night. This in itself is a formidable undertaking and may sometimes, in nervous patients, produce emesis. If the coating of a pill is defective or too thin there will be vomiting; on the other hand, if the coating is old or very hard many pills may pass through the intestinal tract intact. This applies especially to machine-made salol-coated pills put on the market by pharmaceutical houses.

Recently Beck[8] advised the duodenal medication of ipecac by means of an Einhorn duodenal tube. Such a procedure may insure the passage of the drug into the duodenum but could scarcely be called an improvement in method of administration.

Lastly, unless the ipecac has been previously assayed it may be found below the U. S. P. standard. This unreliability of the drug is a serious handicap in its successful usage.

Before discussing the emetine treatment it may be well to describe briefly the cases observed and their treatment. I had the preparations made up by a local chemist from the alkaloid emetine. This product caused, at times, considerable local irritation and infiltration owing to a slight excess of acid, and absorption was doubtless on these occasions much delayed. In fairness to the drug, allowances for this fact should be made in two of the cases.

In order to give the treatment a thorough test no other medication was employed and no colonic irrigations. Cases were not selected and all patients were kept in bed on liquid or soft diet while taking the injections.

BRIEF REPORT OF CASES

CASE 1.—M. F., colored man, aged 27, carpenter, was admitted to Charity Hospital, Aug. 15, 1912. Patient's first attack began about Jan. 7, 1912, and has persisted up to date of admission with the exception of a period of improvement of three weeks in May. The stools varied in number between ten and twenty in twenty-four hours, often accompanied with tenesmus and containing mucus, pus and blood.

Treatment and Course.—Patient given ipecac in 5-grain salol-coated pills, beginning with 75 grains first night; dose gradually reduced to 60 grains. The length of treatment was seven days: total amount of ipecac 445 grains minus four pills passed in stools equal to 425 grains. Bowels were apparently controlled but some abdominal tenderness and discomfort remained and patient went home August 27 against my advice.

October 4 patient was readmitted to hospital having first been examined at my office. He stated that diarrhea began again six days previously and admitted that he had never been free from slight discomfort in abdomen since leaving hospital. He had passed seventeen stools in past twenty-four hours. Examinations of stool showed ameba, pus, mucus, blood and trichomonads.

Physical Examination.—Temperature normal; pulse, 76; fairly well nourished; mucous membranes slightly anemic; abdomen, flat; tenderness in left iliac region; general moderate adenopathy.

Further Treatment and Course.—Emetine hydrochlorid ⅔ grain subcutaneously in arm at 9:30 a. m.; following this he had ten stools.

October 5: This forenoon patient had soft movement; no tenesmus.

October 6: Seat of injection shows slight infiltration and is tender. Only three stools; no blood or pus noticeable.

October 7: One soft stool this forenoon; contains no ameba or blood. Emetine hydrochlorid 5/8 grain injected in other arm. Seat of first injection still a little sore.

October 8: Well-formed stool. Patient up and on full diet. He states his abdomen feels entirely comfortable for first time in six months.

October 9: Emetine hydrochlorid ½ grain was injected to-day as a safeguard against recurrence.

October 12: Bowels normal for past four days. Patient discharged but urged to report at office.

October 18: (Office) Patient says he has been feeling splendid. Bowels perfectly normal.

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[4] Rogers, Leonard: Further Experience of the Specific Curative Action in Amebic Disease of Hypodermic Injections of Soluble Salts of Emetine, Brit. Med. Jour., Aug. 24, 1912, p. 405.

[5] Rogers, Leonard: Amebic Colitis in India: Prevalence, Diagnosis and Emetine Cure, Lancet, London, Oct. 19, 1912, p. 160.

[6] Rogers, Leonard: The Rapid and Radical Cure of Amebic Dysentery and Hepatitis by the Hypodermic Injections of Soluble Salts of Emetine, Therap. Gaz., Dec. 15, 1912, p. 837.

[7] Allen, William: The Emetine Treatment of Amebic Dysentery, THE JOURNAL A. M. A., March 1, 1913, p. 664.

[8] Beck, H. G.: Duodenal Medication of Ipecac in the Treatment of Amebic Dysentery, THE JOURNAL A. M. A., Dec. 14, 1912, p. 2110.

Feb. 6, 1913: (Office) Patient fine. Has gained 15 pounds. Bowels normal.

In this case ipecac failed in spite of a course of treatment with moderately large doses. Yet the patient reacted in a very striking manner to two doses of emetine subcutaneously. He has remained well for nearly four months following. Total amount of emetine administered was 1.8 grains, equivalent to about 170 grains of ipecac.

Case 2.—W. L., white man, aged 47, cook, home, Bogalousa, La., was admitted Oct. 9, 1912. He had been on a spree fifteen days previously and following this his bowels became loose. Stools numbered about fifteen per day and contained blood and "slime." Tenderness also was present. He lost considerable weight and felt very weak. He developed a cough during the past two weeks and expectorated freely. He stated he had fever at onset.

Physical Examination.—Temperature, 98; pulse, 70, somewhat weak; low pressure. Lungs, a few sonorous râles heard at right apex anteriorly and posteriorly, otherwise negative. Heart, negative. Abdomen, slightly distended and very tender especially over right iliac region: some rigidity over this area. Patient appears anxious and complains of abdominal pains. Sweat on forehead. He appears a poor subject for a new treatment, as peritonitis seemed more than likely.

Course and Treatment.—October 10: Passed twenty-five bloody stools in past twenty-four hours. Temperature in evening, 100.8.

October 11: Emetine hydrochlorid ⅔ grain. Number of stools slightly less. Signs of peritonitis more evident. Abdomen more tender and rigid; hiccough present; clammy sweat on forehead; pulse 100, small and weak; sputum, negative for *Bacillus tuberculosis.*

October 12: Emetine hydrochlorid 5/8 grain. Examination of stool, foul odor, blood, pus, little mucus. No amebas found: necrotic material present.

October 15: Marked bulging of epigastrium; great tenderness: bowels move about every hour but no amebas can be found. Stools have foul odor, and pus, blood and necrotic material as chief ingredients. Patient suffering a good deal. Opiates required.

October 18: An attempt was made October 16 to administer ipecac pills by mouth but patient was unable to swallow them. Patient failed rapidly in past three days and died to-day at 10 a. m.

Partial necropsy permitted. Abdomen only was opened. Necropsy diagnosis: "Amebic dysentery, gangrene of the large intestines, perforation and peritonitis." Practically all of the large intestine, except a few inches of the descending colon, was gangrenous. There were walled-off fecal masses from perforations in the epigastrium, right iliac region and in the rectum.

The necropsy clearly demonstrated the utter hopelessness of any therapeutic measure in a fulminating case of this type. The case, however, illustrates that in very severe types of dysentery a subcutaneous or intravenous method of treatment is the only one offering any possibility of cure. It is unfortunate that the colonic contents and walls were not examined at the necropsy for amebas. It might have been shown that the amebas had been destroyed by the emetine injections, and that the gangrenous process was due entirely to secondary invaders, especially in view of the fact that the last three examinations of his stools revealed no amebas.

Rogers has reported a case of very similar history in which on necropsy, scrapings of the ulcers and stained sections through the walls of some of the more recent ulcers failed to show a single parasite.

Case 3. E. Y., colored man, aged 25, waiter, was admitted Nov. 25, 1912. Patient taken sick about eight months ago at Biloxi, Miss., with loose bowels and straining. Stools contained blood and "slime." He also suffered from a constant gnawing sensation in abdomen. Bowels have progressively become worse. Number of actions between ten and eighteen in twenty-four hours. Says he feels weak and has lost weight.

Physical Examination.—Fairly well nourished; mucous membranes pale. Thorax, negative; abdomen, flat, tender in epigastrium and iliac regions. Temperature normal; pulse 70, low pressure. Examination of stool: many motile amebas, blood, mucus and pus; few trichomonads.

Treatment and Course.—November 6: Fifteen stools in past twenty-four hours. Emetine hydrochlorid 5/8 grain, subcutaneously (fresh solution).

November 7: Site of injection sore. Seven stools in past twenty-four hours. Emetine hydrochlorid 5/8 grain by needle.

November 8: Has had five stools since last injection; character of stool changed, now yellowish; contains but small amount of mucus, no blood. Emetine hydrochlorid ¾ grain by needle.

November 9: Tenderness in abdomen nearly gone. Five stools. Examination revealed, after long search, one sluggishly motile ameba, a little mucus, no blood, numerous trichomonads.

November 12: No more injections given because patient complained so much of pain in previously injected muscles. Examination of the emetine hydrochlorid solution showed it to be distinctly acid to litmus, instead of neutral.

November 13: Sites of injection still painful and infiltrated. Four or five stools per day. Examination of stool revealed a few sluggishly motile amebas, encysted amebas, little blood and numerous trichomonads. Because of the pain caused by the new solution of emetine, I decided to give the patient ipecac pills until a fresh solution could be prepared. He was given twelve (60 grains) salol-coated ipecac pills. A few hours later he had a severe vomiting attack.

November 15: Patient refused pills on following night. He was persuaded to try them again but after taking eight pills (40 grains) again vomited and refused to try them any more, stating that he preferred the pain of the injections.

November 16: Emetine hydrochlorid (new preparation) ⅝ grain by needle.

November 17: Seven stools since injection. No pain, no blood.

November 18: One stool. Eemetine hydrochlorid ⅝ grain by needle.

November 19: One formed stool. Patient says he feels all right and wants to go home. Discharged after promise to report to office.

November 30: (Office) Has gained 2½ pounds. Says bowels act regularly once a day. Eats anything he wants.

Jan. 21, 1913: (Office) Feels fine; has gained 11 pounds. Bowels perfectly normal.

The number of injections required in this case was probably due to the fact that the dosage was small and absorption very slow owing to the irritation produced by the acidity of the first preparation. Infiltration about the site of the injection could be felt as long as ten days.

The fact that the patient was highly nervous may account for the vomiting which followed the administration of ipecac pills. At all events the case illustrates the difficulties sometimes met in giving ipecac by mouth.

Case 4.—J. C., colored man, aged 33, laborer, home, New Orleans, was admitted Nov. 18, 1912. Present illness began in May, 1912, with diarrhea. Bowels moved at first five or six times in twenty-four hours; were slimy and accompanied with straining. Some abdominal pain between actions. His bowels gradually became worse. Of late they act as often as fifteen to twenty-five times in twenty-four hours. The stools contain blood and mucus. Patient has constant but slight abdominal pain. Has lost 25 pounds.

Physical Examination.—Rather poorly nourished, slightly anemic. Temperature, normal; thorax, negative; abdomen, upper half, tender; no distention. Liver and spleen not palpable. Examination of stool shows mucus, blood, pus and motile amebas. No trichomonads.

Treatment and Course.—November 20: Patient's bowels moved thirteen times in past twenty-four hours. Emetine hydrochlorid ½ grain by needle in forenoon.

November 21: Six stools since injection. Abdominal pain absent for first time in many months. Emetine hydrochlorid ⅝ grain.

November 22: No stool since last injection; feels much better. Both arms tender from injections.

December 2: Bowels have been normal since November 23 with tendency to constipation. Requires purgatives.

December 12: (Office) Has gained 5 pounds and reports bowels are perfectly normal. Feels fine.

March 4, 1913: (Office) Bowels are normal. Feels perfectly well.

The effect of the injections in this case was very striking. Twenty-four hours after the first injection all abdominal discomfort disappeared and after the second, the stools became normal and remained so. The total amount of emetine administered was 1.1 grains.

CASE 5.—S. S., colored man, aged 40, laborer, home, Adeline, La., was admitted Nov. 19, 1912. About the middle of June patient's bowels became loose; fourteen and fifteen actions in twenty-four hours containing bloody mucus and at times accompanied by tenesmus and abdominal pain. Patient has lost about ten pounds.

Physical Examination.—Fairly well nourished. Temperature normal. Chest, negative. Abdomen, negative except for tenderness in lower half. Subluxation of right hip. Examination of stool: mucus, blood and pus; few motile amebas; many trichomonads.

November 26: Patient had nine actions in past twenty-four hours. Emetine hydrochlorid ½ grain by needle.

November 27: Five stools since injection and seat of injection tender. Emetine hydrochlorid ⅝ grain by needle.

November 28: Discomfort in abdomen better. Three stools. Both arms tender. Emetine hydrochlorid ¾ grain.

December 4: Bowels have acted once or twice daily since last injection but abdominal discomfort (described by patient as "boiling" sensation) still persists. Stool contains some mucus but no amebas. Both arms sore and infiltrated around sites of injections. Emetine hydrochlorid ⅝ grain by needle.

December 12: Some abdominal pain still present. Patient had three soft stools, the last one showed a few streaks of bloody mucus; active amebas found; no trichomonads.

As the previous emetine solution was so irritating it was discarded for a fresh one. Emetine hydrochlorid ⅝ grain by needle.

December 13: No stool. Emetine hydrochlorid ⅝ grain by needle.

December 14: One action: contains no mucus, blood or ameba. Patient feels much better.

December 20: The patient was given three injections of ⅔ grain a day of preparation of emetine hydrochlorid put up in ampules on the 17th, 18th and 19th, in order to make assurance doubly sure.

December 27: Bowels normal for two weeks. The injections caused practically no pain or tenderness. Patient discharged.

The failure of the first four injections may perhaps be attributed to the local infiltration caused by that particular preparation with consequent delayed absorption.

CASE 6.—White man, aged 40, cashier, home, New Orleans, was seen Dec. 5, 1912. Present illness began about three weeks ago with loose bowels. Stools contained mucus. He was treated by a colleague at office with small doses of Epsom salts and enemas. As bowels did not improve at the end of a week, he was put to bed. Stools now contained bloody mucus. On several occasions he passed over one-half ounce of pure blood. As his physician was called out of town, I was called in to see him. He complained of no pain. Temperature was normal. Stool consisted chiefly of blood-streaked mucus.

Physical Examination.—Patient well-nourished. Passages number about ten in twenty-four hours. States he has lost 10 pounds. Thorax, negative. Abdomen, negative.

Course and Treatment.—December 6: Stool (obtained by rectal tube) shows mucus, blood, pus and a few motile amebas; no trichomonads.

December 7: Emetine hydrochlorid ⅝ grain by needle.

December 8: Three stools since last injection, last one partially formed. Emetine hydrochlorid ¾ grain by needle.

December 9: Three stools, soft, a little mucus still present. Emetine hydrochlorid ⅝ grain by needle.

December 10: One stool since injection; no blood, pus or amebas. Both arms slightly painful and tender.

December 14: Bowels constipated. Given purgative, full diet. Discharged.

December 16: (Office) Patient weighs 167 pounds, usual weight 187 pounds.

December 21: (Office) Bowels regular and normal.

March 7, 1913: Back to former weight. Bowels normal.

Of the six patients all recovered except Patient 2. In fairness, however, this case should be omitted in judging the treatment, as the patient was beyond redemption. The average length of treatment with emetine until stools became normal was nine days for the five cases. The shortest interval was two days and the longest twenty days. There is little doubt but that this average of nine days would have been considerably lower had the ampules of the emetine been used throughout. For example in Case 3 injections had to be discontinued temporarily because of the pain produced. In Case 5 absorption was most probably delayed because of local infiltration. The largest dose used was ¾ grains. Larger doses may be found more effective. There were no ill effects noted from this dosage. The average total amount of emetine hydrochlorid used for the five cases was 2.6 grains. This is 0.6 of a grain more than Rogers required for cure in his series. In a case under observation at present 2 grains of emetine have been given and stools have been normal for the past three days.

ADVANTAGES OF EMETINE TREATMENT

The treatment of amebic disease with emetine rests on an experimental basis. It has been shown that ipecacuanha without emetine has but little effect on ameba *in vitro* (as well as clinically) while emetine has a most powerful amebicidal action. Granting this, then we may assume that emetine is the active principle of ipecac so far as amebas are concerned and theoretically should be used in preference to the whole drug in the same manner as we employ quinin for the treatment of malaria in preference to cinchona. According to Rogers a third of a grain of emetine is equivalent to 30 grains of ipecac. The soluble salts of emetine are put up by several pharmaceutical houses. The hydrochlorid, to which my experience is limited, is practically nonirritating when used subcutaneously and in moderate doses causes no nausea, vomiting or depression. Rogers' largest dose was 3 grains in one day. Allen injected 4 grains at one dose and produced nausea for several hours — the patient vomiting once. Rogers has given the hydrochlorid intravenously (one grain in 5 c.c. of normal saline solution) without any depressing effect on the pulse.

To summarize, the advantages of the emetine treatment are briefly (1) simplicity and ease of administration of the drug; (2) no vomiting or depression; (3) accurate dosage (no loss through bowels); (4) rapid absorption and effect; (5) reliability of product (hydrochlorid).

DOES IT CURE?

The question of curability of the emetine treatment can be answered only after a long period has elapsed. Of the five patients that recovered, four have been heard from or seen and all have remained well. Patient 1 is still cured after three months and three weeks; Patient 3 after two months; Patient 4 after three months; Patient 6 after two months and three weeks. Patient 5 has unfortunately been lost sight of. While these intervals of good health are not long, the outlook is, however, very encouraging.

While no definite conclusions can be drawn from the observations of so small a number of cases, I believe that the results are highly suggestive that in the subcutaneous injections of soluble emetine salts an ideal method has been found of treating amebic disease. Time will soon show whether or not, as Rogers believes, another specific has been found.

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BUDDING AND OTHER CHANGES DESCRIBED BY SCHAUDINN FOR ENTAMOEBA HISTOLYTICA SEEN IN A RACE OF E. TETRAGENA

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Schaudinn and Craig have described peculiar changes in a pathogenic entameba which have been figured by Craig and by Hartmann. These changes believed to be essential features in the propagation of the entameba known as *Entamoeba histolytica* are:

1. Reproduction by budding, consisting in the formation of daughter entamebas.
2. Reproduction by sporulation. This is accompanied by changes in the nuclear chromatin. The nuclear area becomes widened, stains diffusely and chromatin apparently diffuses out into the cytoplasm. The nucleus stains less sharply, appears to give up its chromatin to the cytoplasm and then degenerates. Often the nucleus is expelled after having taken up a position on the periphery. Small buds appear on the periphery ranging in size from 3 to 7 microns in diameter; these become separated and later develop a colorless double outline, becoming brown in color and apparently undifferentiated in the interior. Buds of ectoplasm filled with chromidia protrude and are budded off from the parent body which later disintegrates.

Schaudinn described these appearances from human material in which the number of individuals is always sparse compared with that encountered in experimentally infected kittens.

These budding forms described by Schaudinn and Craig are very rarely encountered in man, but may be seen on certain occasions in large numbers in cats experimentally infected with *E. tetragena*. I have seen them also in small refractile trophozoites in surface sloughs from a fatal case of tetragena dysentery. These trophozoites were of the "small generation" type, they contained chromidia, and hematoxylin stained specimens displayed the nuclear characters of *E. tetragena*.

Recently in experimentally infected kittens inoculated rectally with *E. tetragena*,[1] after the strain had matured and at the time of or just before encystment when each nucleus had the characters of *E. tetragena*, that is a prominent karyosome, there occurred peculiar changes in some of the trophozoites, both in dry and in wet-fixed films. These changes as well as can be ascertained from Schaudinn's description and from Craig's and Hartmann's drawings are identical with most of the changes noted by Schaudinn and Craig in the development of the spore-cyst perpetuating forms of *E. histolytica*. The kittens had been inoculated rectally with trophozoites from a case of dysentery in man, and on the death of the first set, kittens of a second set were inoculated, and so on, until the strain matured. The material showing the budding forms was in the fourth remove, at the time of the death of the kittens, that is, when the strain had become mature or senile, reduced in size until it resembled *E. minuta*, when chromidia had appeared in every trophozoite and a few cysts had appeared. In wet-fixed hematoxylin preparations the peculiar changes noted in some of the trophozoites were as follows:

1. The appearance of buds of different sizes on the periphery of the trophozoites in question. These buds were usually clear and free from chromidia. Some, however, contained chromidia and not infrequently a bud contained the nucleus.
2. The extrusion of chromidia, nuclei and portions of cytoplasm. Chromidia was seen apparently being extruded. The nucleus always took up an extreme peripheral position in the cytoplasm, was frequently attached by a slim pedicle of cytoplasm and later detached. Round portions of the cytoplasm (buds) were extruded.

The staining qualities of the nucleus in these forms were always less sharp than in trophozoites and a few near-by apparently normal cysts. These findings can easily be confirmed by the rectal inoculation of kittens and search made in material from the last remove containing trophozoites with chromidia. While a final opinion as to the significance of the changes cannot be given now, the staining reactions in wet-fixed films indicate that they are all degeneration forms of *E. tetragena*. A fuller report with drawings will appear later.

It is believed that these findings in the cat establish a correlation between the findings of Schaudinn and Craig on the one hand and those of Viereck, Werner, Hartmann and others on the other, and it emerges that *E. tetragena* is the common pathogenic entameba of man as Hartmann has already stated and that *E. histolytica* is in all likelihood a spurious species, the alleged spore-cyst development having been described from degeneration forms in senile races of *E. tetragena*.

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[1] The strain is regarded as being a pure race of *E. tetragena* for it was scrutinized from the patient through each remove, and in the third and fourth removes all trophozoites had the nuclear characters of *E. tetragena* and the fourth remove contained a few *E. tetragena* cysts.

THE RELATIONSHIP OF VARIOLA AND VACCINIA

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The relationship of variola and vaccinia has been discussed since Jenner's day, but no satisfactory explanation found. Yet there is an explanation so simple, complete and satisfactory that as thorough an investigation of the literature as I have been able to make in Manila in three months does not reveal any evidence in opposition, and does yield an amount of support that seems almost to constitute proof.

I. BASIC FACTS

1. Small-pox contagion or inoculation gives rise in man to small-pox, a highly contagious, generalized disease of considerable mortality, characterized ordinarily by a preeruptive stage, and other stages related to the appearance, development and subsidence of the eruption.

2. Passed through monkeys and cattle for a few generations and brought back to man, the virus gives rise to vaccinia, a localized, non-contagious, mild disease, that in itself causes no mortality, though septic complications may cause some.

3. Having, by passage, once lost its power to produce small-pox, the virus *never regains* it, even though passed from person to person (proper hosts for variola virus) for from thirty-five to one hundred years.

II. EXPLANATION OF BASIC FACTS

Many explanations have been attempted by others and by myself, but all but two are at once rendered null by one or more of the stubborn basic facts. The two exceptions are:

1. The germ of small-pox by passage through certain lower animals loses (acquires) certain properties, and it transmits its altered condition to its offspring forever, a more striking instance of hereditary transmission of acquired characteristics than has ever before (so far as I know) been cited.

2. *Small-pox is due to a dual and divisible virus, one part of which causes vaccinia and the specific small-pox eruption, the other part being necessary for the production of the contagious, generalized, mortal disease with a distinct preeruptive stage and initial rashes.*

The latter is the favored explanation, both because it seems more reasonable and because it is supported by numerous well-established facts. Though these will not be considered at length here, the more striking ones will be indicated under three general heads.

III. EVIDENCE FAVORING THE EXPLANATION

1. More or less analogous close association of two viruses — hog cholera, dog distemper, etc. (filterable virus and bacillus). Hydrophobia is so closely analogous, street virus corresponding to variola and fixed virus to vaccinia, that the same explanation (duality of virus), probably applies to it.

2. Animal poxes and variolation of animals.

A. Small-pox, cow-pox, horse-pox and sheep-pox mutually protect one against the other (Immermann). Clinically and otherwise they differ.

B. It is very difficult and often impossible to carry small-pox direct from man to calf, the latter being highly resistant. Once established in the calf the pock virus becomes exalted to such a degree that it protects against later vaccination better than does an attack of small-pox, though the latter, by causing immunity to both parts of small-pox virus, affords better protection against that disease.

C. The part of the small-pox virus which is not concerned in pock formation, but is necessary for the development of the contagious, generalized, mortal disease with an initial stage and initial rashes (small-pox), dies or disappears after a few bovine passages. It is therefore unable to participate in the immunization resulting from vaccination.

3. Clinical observations.

A. The three forms of small-pox not showing a pock stage, or only an incomplete one, purpura variolosa, varioloid and variola sine exanthemate, occur in vaccinated persons as often as, or more often than, in unvaccinated.

B. *Vaccinia therefore protects against the pock stage of small-pox rather than, or to a greater degree than, against the whole disease.*

C. Twenty-two per cent. of 2,601 persons who had had variola or been variolated were still susceptible to vaccinia, though immune to small-pox.

A much longer exposition of the above facts, all quoted from other authorities, with a list of references, will soon appear in the *Philippine Journal of Science* and in the *Military Surgeon.* Meanwhile it is hoped that others, more fortunate than we in being able to get hold of small-pox cases, will if possible anticipate this board in experimental work on the subject. For some months there has been no small-pox in or about Manila.

TUBAL REIMPLANTATION

A NEW CONSERVATIVE OPERATION FOR STERILIZATION OF WOMEN

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Permanent sterilization of the female in some cases has been advocated and more or less imperfectly carried out for many years. The indications have varied considerably with different operators. Chronic heart disease, tuberculosis, nephritis, diabetes and hereditary mental taints are generally regarded as indications for sterilization.

A few enthusiasts, such as Spinelli,[1] Cramer[2] and Pollack[3] would add chronic anemia, persistent albuminuria, epilepsy, syphilis, contracted pelvis, diseases of metabolism, infections, cholera, melancholia and cirrhosis of the liver.

Sterilization has been obtained through various unnecessarily mutilating operative procedures on the uterus, ovaries or tubes. The French school seems to prefer supravaginal hysterectomy, an operation which must often be considered as heroically destructive in its results, even though there be no loss of the ovaries and the ovarian secretion, often so essential to metabolic activity in such cases. The "castratio uterina atmocaustica" of Pincus[4] or vaporization of the uterine cavity in order to destroy its mucosa, and the use of the thermocautery as advocated by Kussman[5] are also permanently destructive in their results. Although oophorectomy was and is still too frequently performed, I believe that, to-day, no thoughtful gynecologist would perform a double oophorectomy with sterilization as the only object in view.

Tubal sterilization has been obtained by a variety of methods — total excision, partial resection of the tubes with or without suture of the stumps, and single or double ligation without section of the tubes. R. T. Morris[6] ties a silk thread about each fimbriated extremity. The ligature becomes encapsulated and closes the

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1. Spinelli, P. G.: Indicazioni generali e tecnica della sterilizzazione della donna, Arch. ital. di ginec., Napoli, 1898, i, 443.
2. Cramer, H.: Ueber prophylaktische Sterilisierung der Frau, München. med. Wchnschr., 1904, i, 605.
3. Polak, J. O.: Sterilization in Cesarean Section, Tr. Am. Gynec. Soc., 1909, xxxiv, 73.
4. Pincus: Quoted by Sarway, Deutsch. med. Wchnschr., 1905, ii, 292.
5. Kossman: Quoted by Sarway (see Note 4).
6. Morris, R. T.: Buffalo Med. Jour., 1903, p. 387.

tube. Harris[7] implants the severed proximal ends of the tubes on the posterior uterine wall by flattening them out and suturing them to a peritoneal area previously denuded. H. D. Fry[8] buries the cut proximal ends in the broad ligaments. A. E. Rockey[9] excises the tubes at their cornua, draws them partly out of their peritoneal sheaths and cuts them off. (As shown by him, the severed ends of the tubes will slip into their sheaths and be completely covered by the latter.) He then closes the cornua and fastens the tubal sheaths to the fundus uteri. Van Meter[10] makes a small slit through the peritoneal covering of the tube at its proximal end, hooks the tube up and severs it at its uterine juncture, reflecting the severed end, on the distal side, out through the incision in the peritoneal covering and closing the peritoneal slit with catgut. Kirchoff[11] makes a longitudinal incision through serosa from 4 to 5 cm. long over the uterine portion of the tube, elevates the tubes with tissue forceps, resects from 3 to 4 cm. of the tubes, ties both ends and drops them back into their serous sheaths.

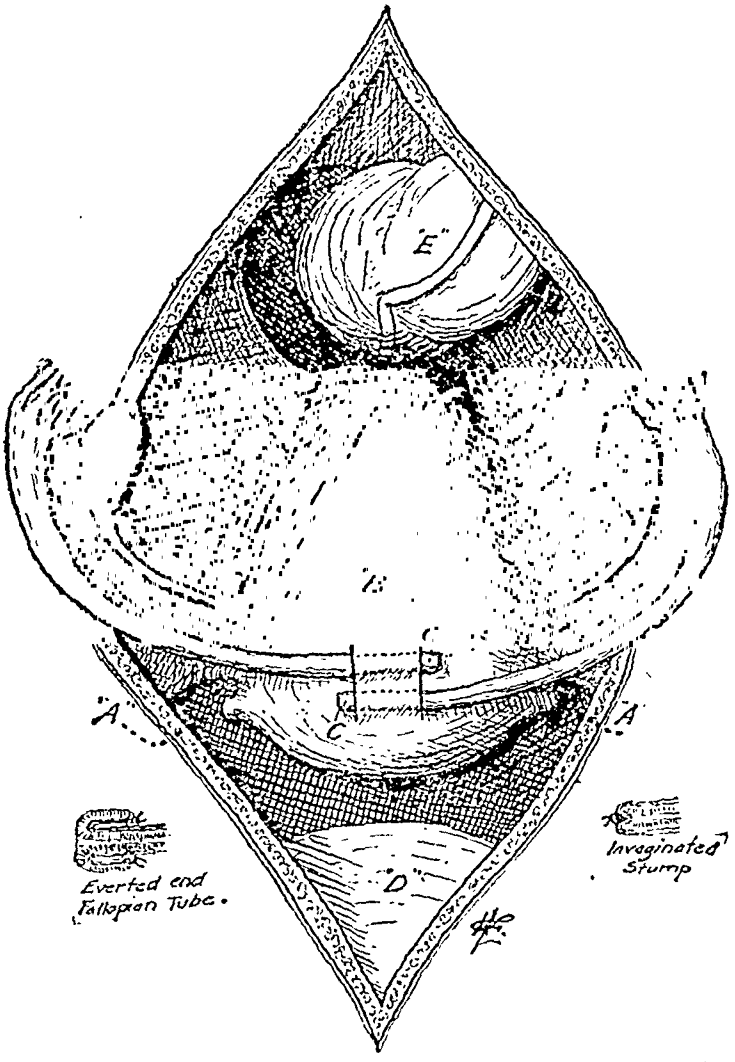

Fig. 1.—Tubal reimplantation; *A*, invaginated stump of tube; *B*, posterior surface of uterus; *C*, reimplanted tube; *D*, bladder; *E*, sigmoid.

Simple and even double ligation of the tubes has proved inefficient in several cases, however, patients reporting subsequent pregnancies. Kustner,[12] who resects 2 cm. of each tube per vaginam, had two patients who became pregnant and required abortion. Reiffenscheid[13] reports pregnancy occurring in a patient one year after a similar technic.

Total extirpation of the tubes is advocated by Haberlin,[14] Frankel, Hubl, Sarway[15] and others. Except when done by the procedures of Fry and Harris, tubal sterilization must necessarily be permanent in its results. Fry alone does not disturb tubal drainage, the severed tube apparently lying free between the layers of the broad ligament.

I call my operation tubal reimplantation. I devised it some eighteen months ago and believe it is indicated in fairly definite selected pathologic conditions such as tuberculosis, nephritis, syphilis and certain mental conditions. It is essentially non-mutilating, conservative, and is conceived on what appears to be a reasonably sound physiologic and anatomic basis. It can be performed, of course, only on normal tubes, but minor pelvic lesions or displacements can be corrected at the same time. In multiparae it can be performed either abdominally or vaginally; in virgins lack of space makes the technic by the latter route somewhat difficult.

STEPS OF THE OPERATION

1. Make mediolateral incision 4 inches long. Open peritoneal cavity in median line after retracting rectus muscle and opening posterior sheath with scissors.
2. Grasp fundus uteri with vulsellum forceps and draw it up through the incision.
3. Amputate tubes on either side one-fourth inch from the uterine cornua. With a fine rat-toothed forceps or a probe, invaginate the distal half of each stump and close the lumen with two catgut sutures. This produces a seroserous adhesion which will effectively close the canals.
4. On the posterior uterine wall, make two parallel vertical incisions 1 inch long and one-half inch apart. These incisions should not be over one-fourth or one-fifth inch deep. With a curved forceps, burrow between these incisions, creating a canal of sufficient size to contain the two tubes.
5. With the same curved forceps remaining in the new canal, grasp the opposite tube and draw it through the canal so that it emerges on the opposite side. Reintroduce the forceps from the opposite side and repeat the same procedure with the remaining tube. In the new canal the tubes should be parallel to each other, one lying above the other, the cut extremity of each tube emerging on the opposite side of the new canal.
6. Make a small cuff by everting the tubal mucosa (it is sometimes necessary to make two small incisions before being able to evert satisfactorily) and secure cuffs to the margins of the new canal by fine catgut stitches which also control any uterine oozing which may be present. Test the patency of both tubes by means of a fine probe.
7. Close the abdominal incision.

RESULTS AND PURPOSE OF THIS METHOD

This operation, I believe, preserves the delicate function of the tubal ciliated epithelium; that is, the tube remains an open canal from end to end and continues to drain normally, if we believe in Menge's wave.

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[7] Harris: Quoted by Polak (see Note 3).

[8] Fry, H. D.: Quoted by Polak (see Note 3).

[9] Rockey, A. E.: New York Med. Record, 1906, ii, 423.

[10] Van Meter, M. E.: Stamping out Hereditary Diseases by Sterilizing the Sexes, Am. Jour. Surg., 1907, xxi, 18.

[11] Kirchoff: Ztschr. f. Gynäk., 1905, p. 1132.

[12] Kustner, Otto: Zur Indikation und Methodik der Sterilization der Frau, Monatschr. f. Geburtsh. u. Gynäk., 1905, xxi, 279.

[13] Reiffenscheid: Ztschr. f. Gynäk., 1905, p. 19.

[14] Haberlin: Ueber Indikationen und Technik der operativen Sterilisierung vermittelst Tubenunterbindung, Med. Klin., 1906, ii, 1310.

[15] Sarway, O.: Ueber Indikationen und Methoden der fakultativen Sterilisierung der Frau, Deutsch. med. Wchnschr., 1905, ii, 292.

Many cases of hydrosalpinx, in otherwise normal patients, have been reported following sterilization by ligation of either the uterine or fimbriated extremity of the tubes. By securing the everted cut extremities in an artificial canal, one reduces the danger of adhesions to a minimum.

Finally, although I cannot as yet offer proof, I am of the opinion that, if occasion demands, these tubes can be reconstructed and that these patients having recovered, may again become pregnant. Reconstruction of the tubes would consist in resecting the invaginated portion of the uterine stumps, removing the tubes from their artificial canal and reuniting the ends, mucosa to mucosa, with very fine interrupted catgut sutures. This work can also be done either vaginally or abdominally.

I was led to evolve the above-described technic by the demand, in several previously sterilized patients, for some procedure which might restore them to a condition of potential fecundity. Tubal sterilization by any of the several methods advocated offered no such hope. Careful study prompted me to try to create a positive but, if necessary, a temporary sterilization.

I have performed this operation four times during the past eighteen months. Two of the patients were tuberculous, the third was a multipara suffering from chronic nephritis who had had eclampsia at the time of her last parturition, and the last patient was a multipara on whom a ventral suspension had been performed for prolapsus uteri. Pregnancy having supervened shortly afterward, the marked anteversion caused severe dysuria and pollakiuria. A laparotomy was performed, but the adhesions encountered were so dense and extensive that it was deemed best to sterilize the patient and empty the uterus. This patient will at some future date have her suspension relieved and the tubes reconstructed.

Sterility has been maintained thus far in all four patients. There has been no menstrual disturbance whatever and repeated bimanual examinations have failed to elicit the presence of any tubal enlargement or palpable pelvic lesion. The general health of these patients has not been impaired and the psychic effect of the knowledge that their pelvic organs had not been removed has been most gratifying.

I desire finally to lay special emphasis on two points: first, the invagination of the tubal stump, thus obtaining seroserous coaptation; second, the eversion of the cut tube as it emerges from the tunnel on the posterior uterine wall, obliterating raw surfaces which would invite the formation of adhesions.

Ultimate success depends, in a large measure, on the careful observance of these two points.

THE ETIOLOGY OF ARTICULAR AND MUSCULAR RHEUMATISM*

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Acute articular rheumatism is now generally regarded as an infectious disease but much confusion exists as to the nature of the infecting microorganism. Poynton and Payne and others have found that there is present in the periarticular structures and joints in rheumatism a coccus (*Micrococcus rheumaticus*) which, when injected into rabbits, produces lesions very similar to those of rheumatism in man. Many attempts to isolate this particular organism in acute rheumatism however, have failed, and the question of the etiology of the disease is not settled, although it must be emphasized that many clinical and experimental facts indicate that it concerns streptococci of some kind.

The etiology of muscular rheumatism or rheumatic myositis on the other hand is unknown. It is true that the clinical facts suggest that the cause of this affection is identical with that of acute articular rheumatism, but all experimental evidence is, as far as can be determined, entirely lacking.

In the course of my work on pneumococci and streptococci my attention became directed to rheumatism and I wish in this note to report very briefly certain results which seem to be of interest.

Organisms corresponding closely to *Micrococcus rheumaticus* have been isolated from one or more joints in seven of eight cases of acute articular rheumatism in the early stages. Blood cultures were made in four cases and gave positive results in two. Cultures of the tonsils yielded similar organisms in two cases. The cases were all typical and not unusually severe. In four there was a distinct history of tonsillitis. Two of the patients had marked pain and tenderness of the muscles, especially about the shoulders, neck and back, and of the more tendinous portions of the muscles of the extremities.

Experiments on rabbits, guinea-pigs, white rats and dogs show that the cultures are of relatively low virulence; they are, speaking generally, more virulent than *Streptococcus viridans*, but less virulent than hemolytic streptococci and the pneumococci. The results of injections into the ear vein in rabbits are very striking and different from those of injections of *Streptococcus viridans* of hemolytic streptococci or both. Multiple nonsuppurative arthritis, endocarditis, pericarditis and myocarditis have been obtained repeatedly in the same animal. The strains obtained from the tonsil at the height of the attack gave the same results as those from the joint but the one obtained from the tonsil eight days later, now growing exactly as a *Streptococcus viridans*, produced endocarditis but not arthritis, pericarditis or myocarditis.

The lesions of the joints are chiefly periarticular. Suppuration did not develop with the freshly isolated strains but after passing through animals abscesses about the joints sometimes developed.

By animal passage and by other means three of the strains from acute rheumatism have been converted into typical hemolytic streptococci on the one hand and pneumococci on the other. During one of the transition stages the strain (from a joint) lost much of its affinity for pericardium, endocardium and articular tissues but acquired what seemed like a pronounced affinity for myocardium and skeletal muscles and kidney, producing now a non-suppurative myocarditis and myositis and an acute nephritis. The lesions in the skeletal muscles have been obtained in twelve rabbits, three dogs and one monkey.

Similar lesions of muscles have been obtained also with strains from joints of two cases in which muscular involvement was present and with four strains of "non-virulent" streptococci which have passed through many animals and which resembled the rheumatism strains very closely at the time.

The lesions in the skeletal muscles vary greatly in size, are elongated, and run parallel with the muscle fibers. Some are so small as to be scarcely visible while some are 5 mm. in length. They contain few leukocytes but a large number of the living cocci, while adjacent muscle contains few or none. Microscopic examination shows what appears to be a coagulation necrosis of the involved fibers. The distribution of the lesions in the muscles of the animals recalls the clinical phenomena of muscular rheumatism in man. They are most numerous in the more tendinous portions of the muscles of the extremities, the flat muscles about the neck and shoulder, the intercostal muscles and the muscles of the spine.

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* Preliminary note from The Memorial Institute for Infectious Diseases.

In all the animals mild arthritis and endocarditis and in most of them pericarditis were present, but not in marked form. Iritis and conjunctivitis, hemorrhages in the sclera, retina and iris have been observed repeatedly. Occasionally lesions in the cortex of the brain, frequently punctate hemorrhages in the stomach, followed by ulcer, and hemorrhages in the appendix have been found.

It is well known that cold plays an important rôle in rheumatism. Exposure to cold after injections of rabbits increased the percentage and degree of joint involvement. Injection of frogs, kept at a temperature of from 22 to 25 C., with pneumococci, ordinary streptococci, and the cocci from rheumatism, show that frogs are quite insusceptible to the former but succumb to the latter, the blood containing a large number of cocci. This result suggested that the rheumatism cocci may grow better than pneumococci and streptococci at a low temperature, and this was actually found to be the case, and this then may be one of the reasons why chilling aggravates so markedly the symptoms of rheumatism.

The more virulent strains from rheumatism and certain other strains of streptococci which have attained the proper grade of virulence frequently produce hemorrhages of stomach and duodenum followed by ulcer. This has been observed in rabbits, guinea-pigs, dogs and in a monkey. To meet the objection which might be raised that although these lesions follow the injection of the organisms grown in vitro this is no proof that similar lesions may be caused by those grown in vivo, emulsions of tonsils were injected intravenously in rabbits, guinea-pigs and dogs. Arthritis (streptococcal), hemorrhages of stomach and ulcer of stomach and duodenum have thus been produced repeatedly. The emulsions from freshly removed tonsils were found to be very toxic for rabbits, guinea-pigs and dogs. The symptoms following injections of relatively large doses in guinea-pigs and dogs are those characteristic of anaphylaxis in each. The degree of toxicity was greatest in the emulsions from tonsils which were visibly infected and which showed the greatest numbers of bacteria in plate cultures.

ACUTE TRAUMATIC SUBDELTOID BURSITIS

A NEW AND SIMPLE TREATMENT *

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Subdeltoid bursitis in its acute stages has hitherto been treated by rest to prevent primarily further traumatism to the bursa from motions which cause it to impinge on the coraco-acromial ligament. Counter-irritation, especially with the Paquelin cautery or hot air, has been employed together with the use of ice-bags for the pain. In most instances even with this treatment progress is not particularly rapid, a fact which can be readily appreciated from the sheltered position of the bursa beneath the deltoid muscle. Any treatment in which motion is permitted is sure to be slow owing to the renewed traumatisms to the already distended bursa. One of the most distressing difficulties is the loss of sleep due to the inability of the patients to find a comfortable position or to their being awakened by pain from any unconscious motion that brings the bursa between the ligament and the head of the humerus.

The method of treatment suggested in this paper resulted from an effort to make the diagnosis of such cases more definite for students by showing through aspiration that the bursa contained fluid. The first instance in which this was attempted was a case of pyemia following acute osteomyelitis of the femur in which the patient developed pain in the shoulder and symptoms of a metastatic purulent subdeltoid bursitis.

Aspiration of the bursa yielded pus, and the diagnosis was confirmed at operation when the distended bursa, filled with a purulent exudate, looked much like the wax injection of the bursa illustrating Baer's article.

Case 1.—A little over a year ago, a working man, aged 40, applied for treatment at the dispensary complaining of an injury to his shoulder. While engaged in his work, the patient slipped and fell, striking his shoulder against the pavement. No immediate disability was noted, but the next day the shoulder began to hurt and the patient found that it could not be used without paining him. This condition increased up to the time of his visit to the dispensary, a week after the injury.

Examination.—On inspection nothing abnormal could be found about the affected joint. Palpation revealed a painful point just in front of and below the tip of the acromion process. Palpation of the head of the humerus in the axilla revealed no tenderness about that portion of the joint. Adduction was possible, and there was almost complete internal and external rotation with the hand and arm at the side. Abduction was limited to 20 degrees, and the patient was unable to put his arm behind his back.

Treatment and Result.—With the idea of making the already obvious diagnosis more certain, the bursa was aspirated and about 3 c.c. of a straw-colored fluid removed. The effect of the aspiration was immediate, inasmuch as the patient could raise his arm at once in complete abduction. There was still slight discomfort on motion for a few days which disappeared completely in the course of a week without any further treatment than the aspiration.

Case 2.—Another patient, aged 63, who worked in a sawmill, was admitted to the dispensary service recently. Two weeks previously, he had fallen and struck his right shoulder with his arm doubled under him. Two days later it began to pain him and gradually became worse. The pain was most acute in the shoulder, the patient indicating a point on the deltoid between the coracoid and the acromion processes. There was also some pain running down the biceps on motion. One of the most distressing features of this case was the loss of sleep. On two occasions, the patient sat up all night because he could get no rest from the pain in bed.

Examination.—Pressure over the subdeltoid bursa produced exquisite tenderness. Palpation of the head of the humerus in the axilla revealed that the joint was not tender in this region. There was no crepitation heard on auscultation over the long head of the biceps on flexion and extension of the forearm. Adduction was free; the hand was easily placed on the opposite shoulder. Internal and external rotation was practically complete with the arm at the side, but abduction was limited to 15 degrees, and the hand could not be placed behind the back.

Treatment and Result.—In this instance the bursa was aspirated both with the idea of confirming the diagnosis and as a therapeutic measure. About 4 c.c. of a straw-colored fluid were withdrawn which coagulated on standing and remained sterile after being incubated for forty-eight hours. As in the previous case, the effect of the aspiration was instantaneous in permitting the patient to abduct his arm completely and put his hand behind his back. In the promptness of its result the therapeutic effect of the aspiration can be compared only with the rupture of a ganglion. Two days later the motions were still free; the patient slept well, and there was only a slight tenderness over the bursa which disappeared completely in a week.

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*From the Department of Surgery, Yale Medical School.

METHOD OF TREATMENT

The method commends itself as the simplest and most effective that has yet been suggested for the treatment of acute traumatic effusions into the subdeltoid bursa. From the therapeutic point of view, the results are almost instantaneous. Moreover, the confirmation of the diagnosis by obtaining fluid from the bursa is extremely satisfactory.

Our experience with the method has been confined to two acute cases, and it is quite possible that there may be instances in which a more serious injury to the bursa may require repeated aspiration owing to a recurrence of the effusion. I am inclined to believe, however, that the chief factor in maintaining the condition to a chronic stage with the accompanying marked thickening in the wall of the bursa is due not so much to the severity of the primary injury as to the repeated traumatisms brought about by movements of the shoulder-joint, which cause the already distended bursa to strike against the coraco-acromial ligament and thus maintain a sort of vicious circle.

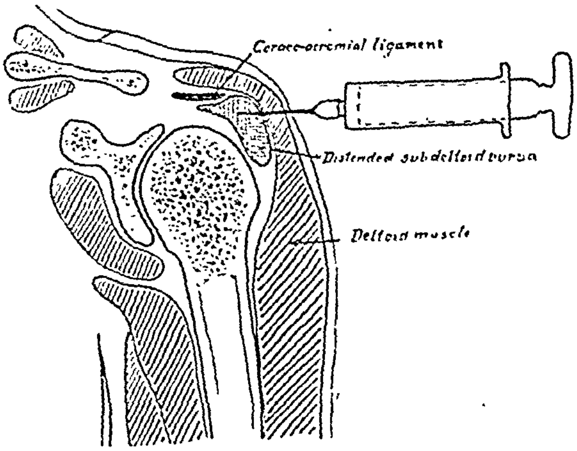


Diagram showing method of aspiration.

After the aspiration, it might be well to fix the joint by a Velpeau bandage for a few days, although we have allowed and even encouraged these two patients to use their arms in order to determine just what effect the simple aspiration would have. It is particularly desirable to know whether or not the method is of any value in the treatment of the more chronic forms of subdeltoid bursitis. While this is purely a matter of speculation, it may prove that radical excision of the bursa according to the method of Baer or the treatment of Codman will be the most successful therapeutic procedure in these cases.

The method of aspiration which we employed is shown in the accompanying diagram. A Luer syringe is partly filled with about 1 c.c. of sterile cocain or novocain solution. The latter is injected into the skin and ahead of the needle as it passes through the deltoid. The needle is pointed roughly parallel to the clavicle and directed toward the bursa lying just over the bicipital groove. The point of entrance is about 2 cm. below the level of the acromion process. As the point of maximum tenderness lies directly over the bursa, this will prove perhaps the best guide for the needle, for it was at this point that fluid was obtained in my cases.

311 Temple Street.

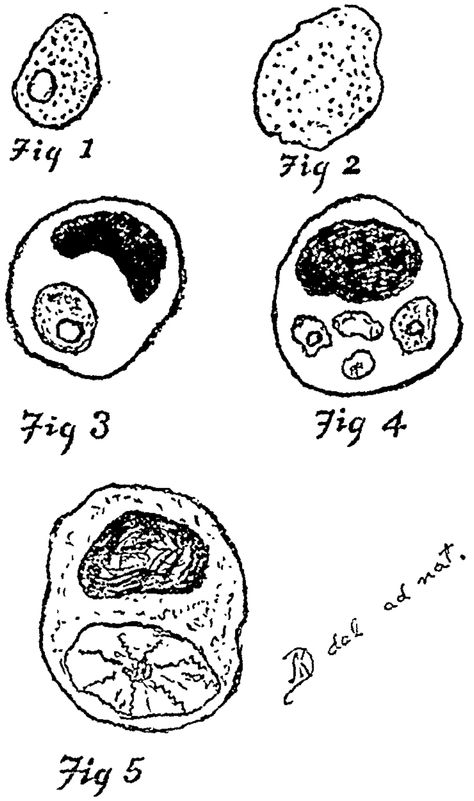
THE RECENTLY DESCRIBED PARASITE OF SYPHILIS

A. K. DETWILER, M.D., OMAHA

In a recent article E. H. Ross[1] describes his "jelly method" for the examination of blood, fluid expressed from the lymph-nodes and the scrapings from sores or chancres in cases of suspected syphilis. I have repeated the technic and examined scrapings from chancres, the peripheral blood, and fluid squeezed from punctured lymph-nodes of syphilitic patients. I have found the parasites and followed most of the phases as described by him. "The jelly method" is so simple that I write this report with a view to its general adoption as a means of diagnosis of syphilis.

The bodies found by this method are regarded as protozoa with definite staining reactions; they undergo visible changes and certain stages of development within the protoplasm of the cells of chancres, lymph-nodes and mononuclear leukocytes. When lymph or scrapings from chancres cannot be obtained, an examination of the peripheral blood, prepared in the same way, is as satisfactory, but requires more time, as the organisms are scarce and difficult to find. They are not more difficult to find, however, than the *Plasmodium malariae*.

One has only to compare the ordinary familiar blood-picture with slides from syphilitics prepared in this way to be convinced of the striking differences. The parasites appear as small, round, oval or pear-shaped, copper-colored bodies containing five granules more or less deeply stained and having at times a so-called vacuole or nucleus (Figs. 1 and 2). Similar granular bodies are found in the cytoplasm of the mononuclear cells and may be seen to move freely, to enlarge and apparently to become surrounded by a wall. At times they divide and may even be extruded from the cell and become motile bodies free in the surrounding fluid (Figs. 3 and 4). The "enclosed inclusion" within the cell (Fig. 5) may develop into a bunch of spirochetes which diverge from the central stained mass like the spokes of a wheel.[2] The jelly is made as follows: agar 1 gm., sodium chlorid 0.5 gm., distilled water



Recently described parasites of syphilis.

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[1] Ross, E. A.: Brit. Med. Jour., Dec. 14, 1912, p. 1651.

[2] For life cycle see McDonagh: Lancet, London, Oct. 12, 1912, p. 1013.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION

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SATURDAY, APRIL 19, 1913

THE SUGAR CONTENT OF HUMAN BLOOD

Thanks to the gradual perfection of the analytic procedures of biochemistry, the estimation of the sugar content of the blood, once among the occasional methods applied to this circulating fluid for purposes of research, has become an almost current practice in some laboratories. Inasmuch as the organism is exceedingly sensitive to even small variations in the percentage of sugar in the blood, the importance of adequate quantitative information on this point can scarcely be overemphasized. For the most part we have been guided by the appearance of sugar in the urine as an index to the increased content in the blood. This has been due to the ease with which the desired information could be obtained by simple and accurate methods of chemical examination of the kidney secretion, rather than to any assumption that the data thus furnished give a *perfect* picture of the fundamental underlying condition, the sugar content of the blood itself.

The technic of the analysis of the blood for sugar has had its pitfalls, and has little by little profited by that wholesome criticism which makes for progress in scientific work. We would not imply that such an examination vies in simplicity with the routine methods of urinary analysis; but it is well within the possibility of any well-equipped and — what is more important — well-manned clinical laboratory. The removal of specimens of blood from the blood-vessels in man for purposes of examination has become a common procedure as a consequence of the diagnostic demands of the last decade, so that this feature presents no formidable obstacles. These factors have accordingly combined to furnish abundant opportunity for the collection of statistics regarding the sugar in the blood. New facts have been brought to light, among them the demonstration of the participation of the red corpuscles as well as the plasma in the sugar-carrying function.

The question of the sugar content of the blood has been subjected to critical review and received numerous analytic additions in the medical clinic of the University of Leipsic at the hands of Rolly and Oppermann.[1] A series of standard or normal figures, so to speak, have been established. The sugar content of the plasma was found to vary between 0.078 and 0.107 per cent. The average of 0.096 per cent. for the plasma is contrasted with 0.076 per cent. for the entire blood, including the red corpuscles. These investigators find the sugar content of the latter to be, as a rule, smaller than that of the plasma.

When the temperature of the body is artificially raised by the use of such methods as light baths, there is an attendant increase in the proportion of sugar in the blood. Rolly and Oppermann caution against the careless employment of such temperature-raising devices in the management of diabetic patients, inasmuch as the accompanying hyperglycemia may have an untoward effect on the welfare of these individuals. They have further demonstrated that febrile disease in man tends to be accompanied by an increased sugar content of the blood. This hyperglycemia is in part attributable to the heightened temperature and partly to the toxins furnished by the infecting organisms. Other types of poisons may induce similar consequences. Consideration has also been given to the occurrence of hyperglycemia in the absence of bacterial processes.

In the past high blood-pressure has sometimes been charged with conditioning an increase in the sugar in the blood. A causal relation between the two factors now scarcely seems tenable. When they are associated it appears more probable that some other pathologic process is responsible. The detailed analysis of such instances remains for the future.

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[1] Rolly, F., and Oppermann: Das Verhalten des Blutzuckers bei Gesunden und Kranken, Biochem. Ztschr., 1913, xlviii, 50, 187, 200, 259, 268.

EXPERIMENTAL BIOLOGY OF THE OVARY

The extremely interesting problems dealing with the connection of the ovary with all the sex qualities of the female and the probable existence of an internal ovarian secretion, as well as with the possibilities of regeneration of the ovary, are among the most interesting problems that occupy the medical profession at the present moment. Some recent experiments on birds illustrate clearly the dependence of sex qualities and characters on the presence of the ovary, and apparently demonstrate the existence beyond all doubt of an internal secretion capable of bringing about the development of these various sex phenomena. At the meeting of the American Society of Zoologists in January, H. D. Goodale[1] reported the occurrence of the development of male characters in ducks and fowls after the removal of the ovary. Of twelve ducks successfully operated on, all began at once to develop the male plumage, but after a short time three of the birds reverted to their original type. The cause of this reversion became apparent when on examination it was found that the ovaries had been only partially removed. The remaining nine ducks have continued to acquire male plumage; that is, as the female feathers drop out they are replaced by feathers similar to those of the corresponding male. Though as a consequence of this operation, most of the transformed females are externally at least almost perfect replicas of the corresponding male, nevertheless the voice remains that of the female, in spite of the fact that in some cases the adult voice was not acquired until several weeks after the operation, the birds having been operated on at about the sixth week of life.

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[1] Goodale, H. D.: Science, Feb. 13, 1913.

In fowls from which the ovaries are completely removed, the male habit and characters develop in their entirety. Plumage, spurs, comb and wattles all begin to grow at once and gradually come to full size. Notwithstanding the beginning of this development, in one case there was a reversion to the female type after a time, and then examination showed that there had been regeneration of the ovary from a small portion that had been left in place. When a portion of the ovary was deliberately left in place, or only a portion of it carefully removed, no male characters developed. Manifestly only the stimulus or perhaps the inhibitory influence of the internal ovarian secretion is needed, and not a definite amount of it to combine with other tissue-growth elements.

These observations have now been carried out on a sufficient number of birds to make the conclusions from them reasonably certain as well as eminently suggestive for human physiology and gynecology. They have been confirmed by some experimental observations made in the department of physiology of the University of Cincinnati and recently communicated to the Academy of Medicine of that city. In these experiments ovarian tissue was transplanted from the female guinea-pig into the castrated male. The mammary glands of the male began to develop and secreted milk, the nipples became surrounded with an areola of dark pigmentation, and the hair over the body became soft and more glossy. Both sets of observations seem to show that the development of male characters is inhibited by the internal ovarian secretion and apparently imply that femaleness is due to the presence of a certain definite factor which is lacking in the male. They thus tend to support the mendelian hypothesis that femaleness is one of a pair of alternative characters. Apparently in vertebrates the female character is the *dominant* one and the female vertebrate contains both the female and the male characters, while the male contains *only* the male characters. In other words, the female is a sex-hybrid, while the male is pure male.

"At the same time," as Bateson[2] says, "we should be wrong in supposing that the recognition of femaleness as a definite, allelomorphic factor is more than a first step toward an understanding of the phenomenon of sexual dimorphism." Such data as we have serve largely to indicate the extreme complexity of the problem and the vast amount we have yet to learn. For instance, there is evidence that, whereas in most insects it is the male that is a sex-hybrid, containing both male and female characters, in one lepidopteran, on the other hand, the female appears to be hybrid like the vertebrate female.

The little we do know opens up fascinating vistas of speculation. Although it would be a source of error to fail to realize that we do not yet know how far such observations made on lower animals are applicable to the more complex human animal, there is a temptation to ask, for instance, what the sociologic application of these biologic facts may be. What is the social effect of the frequent use of oophorectomy? What biologic, as distinguished from economic, factors enter into the pressure for change in the economic and political status of women seen particularly in the English-speaking world to-day? What would be the effect on the race of any condition of life which might tend to diminish human ovarian secretions? Each of these subjects for investigation beckons the inquiring mind out into the vague unknown. Indeed, the danger is not that such interesting possibilities will be overlooked, but rather that partisans on both sides of sex-involved questions of the day will seize on half-baked biologic deductions or uncoordinated biologic half-truths as polemic material. In the future Biology will probably give valuable aid to her sister sciences; while her contributions are unready, however, good manners and good judgment forbid snatching them unfinished from her hand.

"BIG BUSINESS" AND SCIENCE

Much has been written on how science and commercial industries (especially chemical industries) have been of mutual aid in Germany and regrets have been expressed that alliances of this nature are not more frequent in the United States. Physicians seeking for impartial accounts of new drugs, however, often have occasion to wish that many of the communications which appear in German medical journals had been written by those less dependent on manufacturers. How little the big German chemical interests hesitate to sacrifice science for the sake of "business," moreover, is strikingly illustrated by a remark of Ostwald,[1] a man who has probably done more for both German science and chemical industry than any other one living. Ostwald for many years has been endeavoring to secure the establishment of an international institute of chemistry, one of the functions of which is to be the maintenance of a card index of all discoveries in chemistry so that an investigator anywhere in the world can have instant access to everything which has been written on a particular subject in which he may be interested. Violent opposition to this scheme, according to Ostwald, has developed on the part of the big chemical houses of Germany, the reason apparently being that these houses have established such catalogues for their own use, the possession of which gives them great advantages over the smaller houses in cases of patent litigation, etc. Ostwald says, however, that such an institute will be founded "in Belgium or in France or, what is most probable, in America."

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[2] Bateson, W.: Mendel's Principles of Heredity, G. P. Putnam's Sons, Cambridge, 1913, p. 191.

[1] Ostwald: Ber. d. deutsch. pharm. Gesellsch., 1913, No. 1, p. 5.

Will America prove itself worthy of this expression of confidence? All will depend on the strength of the scientific as compared with that of the commercial spirit. Thus far American physicians have maintained the ideals of their profession; they have not (with rare exceptions, especially where certain serums and vaccines are concerned) entered into commercial alliances. It is true that in recent years at least they have seemed somewhat sterile as far as new discoveries in materia medica are concerned; but had the results of our laboratory workers been patented and exploited whenever they were patentable or exploitable the results would not seem so meager.

But it is evident that we are rapidly approaching a dividing of the ways: the efforts of the American pharmaceutical manufacturers to dominate the medical profession are well known; equally threatening are the German chemical houses referred to by Ostwald which, often taking advantage of our loose patent laws (under which, it must be confessed, they also sometimes suffer), are assuming more and more a dominant rôle in this country.

The antidote to this is the assiduous encouragement of the growth of all the scientific institutions (university, special research and government) having to do with medical research. Rapid advances have been made, but they are not keeping pace with the needs of the day; in even the best of our institutions, research workers and teachers are still expected to conduct large departments on sums less than the income of a fairly successful clinician or business man.

MEDICAL MATTERS IN NEWSPAPERS

The development of preventive medicine through proper sanitation and correct hygiene, public and personal, demands that the public be educated as thoroughly as possible in all the essentials. The public is also entitled to correct information concerning scientific medical progress. The readiest means of attaining this is probably through the daily press. The newspapers are constantly giving increased space and attention to all public health and medical matters both for their news value and for the benefit of the public. They undoubtedly desire to have the matter they print correct, but frequently their attempts at describing medical matters are decidedly misinforming and even ludicrous.

The Philadelphia *Ledger* in describing the Trendelenburg position says: "The Trendelenburg posture consists simply of posterior operations by means of a specially contrived operating-table, that in cases of a particularly delicate character have been remarkably successful." Another leading daily paper, the Cincinnati *Enquirer*, says: "Dr. M. W. died suddenly of pleurisy of the brain. He became ill in this city with pulmonary peritonitis." The Philadelphia *Press* reports that "A 4-months'-old child died of what is known among surgeons as faraman ovale." The Fort Wayne *Journal-Gazette* in speaking of what it calls "ankersteleal nephortis" declares that "this disease makes the internal conditions worse than Bright's disease." The Cleveland *Plain Dealer* says: The V—— Pharmacy has been named as a supply-station for antitoxin. The antitoxin will be used in cases of diphtheria, to prevent blindness in newly born babies, for throat cultures and in the examination of blood in typhoid and malarial cases." The San Francisco *Chronicle* tells of a citizen who "while cranking his automobile, sustained what is technically known as a Colles fracture of the right rib." The Boston *Record* says: "The *bacillus Welchi* is the gas bacillus dwelling in the international track." The Chicago *Record-Herald* describes the death of a man from "shock and lumbar pneumonia following six gunshot wounds." An Erie (Pa.) paper records the opinion of three surgeons that a man "would always be a sufferer from chromatic epilepsy."

Reports of medical meetings record interesting talks and papers on "Ophthalmic Neonatorum of the New Born," "Perpetual Eclampsia," "Hydrated Mole" and "Chronic Intestinal Nephritis." Describing a fatal accident one paper says: "The shock acted on the neuromastic nerve leading from the lungs and stomach to the heart." A Roentgen-ray examination of a man who thought he had two hearts showed that he was suffering from "an aneurism of order A." Another suffered from "plumbago" and a third from "schlerous of the liver." Speaking of the death of a popular young woman one newspaper says: "The young lady had been suffering for some time from uriconia conia, or neuralgia of the heart, and apparently medical aid brought little or no relief."

The question has also its serious side, as in the instance of sensational newspaper articles concerning cancer and tuberculosis cures, some of which at least soon prove to be the rankest fakes, and their exploitation under the guise of great scientific discoveries the most palpable advertising dodges. Such false, incomplete or premature reports delude incurables into undertaking long journeys, thereby undergoing the most acute and hopeless suffering and wasting fruitlessly their remaining funds, only to experience the most cruel disappointment.

Self-respecting newspapers are careful to have their financial articles written by those familiar with financial subjects; for technical articles in various fields of activity they seek experts. Why not the same care in medical matters?

EDUCATION IN SEX HYGIENE AND PROPHYLAXIS

Recognition of the preeminent responsibility of our profession in the field of preventive medicine has resulted in many lines in a marked awakening of physicians to their obligations as leaders and teachers in the science of keeping well. The essence of preventive medicine is education. and physicians, by virtue of their training, experience and ideals, of right ought to be leaders and teachers. Yet until within a few years their responsibilities were not recognized in the important fields of the prevention of venereal disease and education in the hygiene of sex.[1]

The earlier policy of silence and repression in regard to these matters is fast changing not only on our part but on the part of parents and educators. The sinister menace of venereal disease can hardly be overestimated. The late Dr. Prince A. Morrow,[2] who has done such excellent work in arousing public opinion to the dangers and moral issues of these diseases, states that in the United States annually 770,000 males reach early maturity. If the experience of the past is a safe criterion, at least 60 per cent., or 450,000 of these young men, will at some time become infected with venereal disease, 20 per cent. before the age of 22, 50 per cent. before 25, and over 80 per cent. before they pass 30. This is the morbidity among males reaching 16 in any one year. Each succeeding year adds a similar group to the aggregate.

Syphilis and gonorrhea undoubtedly surpass in prevalence all other infectious diseases combined, and their immediate and disabling effects fall most heavily on the most active and productive period of life. Morrow lays to gonococcus infection alone 80 per cent. of all deaths from inflammatory diseases peculiar to women, 75 per cent. of all special operations on women, and over 60 per cent. of all the work done by gynecologists; 50 per cent. or more of these infected women are left irremediably sterile besides the number whose offspring are still-born, premature, weakly, diseased or mentally defective. These figures may be too high, but probably not.

Considering the terrible ravages of these diseases and their wide prevalence. preventive and prophylactic measures have been wofully inadequate. The community and state assume immense burdens in the care of victims of such conditions as deaf-mutism, mental defectiveness, tabes, general paralysis, blindness and many others. Yet the prevention of a large percentage of these conditions by prevention of syphilis and gonorrhea receives but meager attention. If bubonic plague had but a fractional percentage of the incidence of these diseases all hands would be joined to drive it out. Cholera in a civilized country to-day is no such social and national menace as venereal disease. We appropriate great sums to fight certain epidemic diseases and to maintain a rigid quarantine against them, but we are only now beginning to wage prophylactic warfare against diseases which are as dangerous as any epidemic disease and far more dangerous than many.

There are various points of attack in this problem and various closely related problems, such for instance as prostitution in its various aspects, the proper regulation of divorce, physical and mental requirements for marriage, control of the dissemination of pornographic literature, plays, moving pictures, etc. But there is one point of attack in combating the spread of venereal disease which is justly regarded by many experienced workers as the most vital and strategic, and this is the education of the young. There has been an upheaval in pedagogic and social sentiment in the last few years regarding the question of sex-teaching in home, school and college. Conventional prejudice against such teaching is giving way rapidly, and results are already beginning to appear. Educators are coming to believe that these subjects have a rational and vital place in the educational system.

Members of our profession have an inherent and unique responsibility in furthering this educational work, and every physician can participate either privately or publicly. Modern social sentiment demands a new style of treatment and a new point of view in considering venereal disease, and it behooves the physician to be a leader in this great work.

WOOD ALCOHOL—POISON

In spite of numerous warnings published in so many medical, pharmaceutical and lay periodicals, it is strange that so much ignorance is still displayed regarding the toxicity of methyl or wood alcohol. This lack of knowledge, or perhaps of wisdom, is shown in some quarters in which it ought to be least expected. For example, the New York Board of Health a few months ago passed the following ordinance: "No preparation or mixture containing methyl alcohol intended for external use by man, or so used, shall, when offered for sale, sold or used, be especially labeled, as follows: 'This preparation contains methyl (wood) alcohol.'" If the foregoing means anything it permits a virulent poison to be sold to the ignorant public without a specific notice of its toxic quality. That one may fully appreciate the situation it must be remembered, as the *Practical Druggist* points out, that the sanitary code of New York, adopted in January, 1912, includes the following section: "No person or corporation shall offer for sale any food or drink which contains methyl alcohol (commonly known as wood alcohol), or any preparation or mixture of any kind whatever containing the same intended either for internal or external use by man; nor shall methyl or wood alcohol or any preparation or mixture containing the same be used on or applied to the person or body of another." This ordinance was certainly based on what we definitely know of the poisonous characters of wood alcohol, Columbian Spirits *et hoc genus omne*, but Health Commissioner Lederle and his board appear to have been looking backward — all in a year's time. A different attitude is that taken by the president of the American Barbers' Supply Company, who probably had something to lose in assuming it: "I am greatly surprised at the remarks of Health Commissioner Lederle, which seem to encourage the use of methyl alcohol. The honest manufacturer obeys the law and uses grain alcohol for his preparations, while the dishonest man uses methyl alcohol and sells the goods for one-half the price they cost to manufacture when grain alcohol is employed. I do not believe that any first-class barber would knowingly apply to his customer's face or head any lotion which contains methyl alcohol. The health board should enforce the law and protect the barbers and the public; and the barbers, on the other hand, should avoid buying bay rum, hair-tonics, witch-hazel, etc., at prices which are far below the regular market quotation."

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[1] This subject has been discussed previously in THE JOURNAL as follows: Sex Instruction in the Schools, editorial, April 1, 1911, p. 968; Sex and the Instruction of the Young, editorial, March 11, 1911, p. 746. An article by Dr. Philip Zenner (Sex Instruction in School, Feb. 1, 1913, p. 357) will also be found of interest.

[2] Morrow, Prince A.: Society of Sanitary and Moral Prophylaxis, Its Origin, Objects, Aims and Methods, 105 West Fortieth Street, New York.

[1] Practical Druggist, December, 1912.

In the face of this astounding piece of New York municipal legislation it would seem necessary to draw the attention of our readers once more to the recent discussion of this matter by Casey A. Wood.[1] Among other items will be found an account of the death of seventy-one municipal lodgers in a Berlin asylum from drinking cheap schnapps made with what corresponds in America to Columbian Spirits, the so-called "deodorized" wood alcohol. To this account might be added a methyl-alcohol holocaust later occurring in another German town. Here seven deaths and the usual accompaniment of blindness followed the ingestion of a cheap drink compounded from a "deodorized" wood alcohol sold by a local druggist under the trade name of Spirtogen" — a sort of Teutonic Columbian Spirits. It was shown at the trial of the druggist that although he labeled the bottles of methyl alcohol "For External Use," he "winked the other eye" when its potable qualities were privately discussed. Moreover, a number of tinctures in his shop were found to be made up with methyl instead of ethyl alcohol. The crime having been committed in Gelsenkirchen instead of New York, (1) the culprit was haled into court at once, (2) the trial lasted seven days, at the end of which (3) the poisoner was sentenced to two years' imprisonment, and (4) the sentence was carried into effect. Although Columbian Spirits, as well as similar pernicious liquids since put on the market, have been responsible for an enormous number of cases of death and blindness, yet at this very moment they are not only being sold in drug-stores all over the United States in competition with the official denatured alcohol, but they may be, and often are, employed as a beverage in lieu of grain alcohol.

For the safety of our citizens the sale of every form of "deodorized" methyl alcohol should be discouraged or prohibited — better prohibited — and, although many states and municipalities have made legal provisions for the former contingency, these laws are frequently dead letters. Wood found exactly that state of affairs existing in Chicago. It seems incumbent on members of the medical profession, as teachers of hygiene, to comment at proper times on the subtle evils likely to attend either the internal or external use of this poison, whether it be exhibited in the form of crude wood alcohol or masquerades as a "pure," deodorized product "just as good" as grain alcohol. Denatured alcohol answers every legitimate purpose for which Columbian Spirits may be employed, and is even cheaper than that toxic agent.

THE VACATION SEASON, AND SANITATION AT RESORTS

The approach of the vacation season makes it desirable to note again the necessity for paying attention to sanitary conditions in camps or resorts. Not all resorts where one may spend a vacation are health resorts. Indeed, many of them are just the opposite, and some are centers from which ill health originates. Typhoid is the index of the sanitary status of rural health resorts; many cases of that disease which are set down in the vital and morbidity statistics of the cities originate there during the vacation season. While investigation is difficult on account of the lack of adequate supervision of so-called health resorts by public authorities, yet it behooves the seeker after health or recreation to pay some attention to this matter.

Many health resorts include in their literature statements as to sanitary conditions which afford at least one means of forming an opinion as to the desirability of patronizing such resorts. The health departments of some states provide for the systematic inspection of summer resorts with regard to sanitation, and reports of these inspections also afford valuable information. New York for the past six years has systematically inspected the summer resorts of that state, of which there are many, and these reports should prove valuable to persons contemplating going to such places in that state. When inspection reveals bad sanitary conditions, the proprietors of hotels, boarding-houses and other places of the kind are notified specifically as to shortcomings and are requested to make improvements. Subsequently reinspections are made to find out whether such improvements have been made; in case of failure to follow out suggestions, the condition of such resorts, hotels, etc., is published in the bulletins of the State Board of Health and in the public press, and people are warned against them.

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[1] Wood, Casey A.: Death and Blindness from Methyl- or Wood-Alcohol Poisoning, The Journal A. M. A., Nov. 30, 1912, p. 1962. See also this issue, p. 1247

Michigan is another state containing a large number of resorts, which likewise looks after these places carefully and urges improvements where improvements are needed, though perhaps no means of enforcing the regulations of the board are provided by the health statutes, except in the case of positive nuisances. Persons who spend their vacations away from home, however, are becoming educated to the necessity for inquiring into the sanitary conditions of places in which they expect to spend their vacations. In a recent bulletin of the Michigan State Board of Health an instance is given in which a man in another state reported that his wife had acquired typhoid in a Michigan resort, and that he desired to know of the state board whether it would be safe to return to that place during the coming season. The board replied that the improvements suggested by it had not been made at that resort and that he should keep away. The proprietor of that resort has thus lost business through his indifference toward the protection of his patrons. He coolly informed the state board that he knew his own business; this represents the short-sighted policy of many resort-keepers.

Campers, also, should exercise great care to select places with unquestionable water-supply, and to adopt proper camp arrangements as to the disposal of waste, prevention of breeding of flies, proper protection from mosquitoes, etc.

Typhoid is really a rural disease with its greatest incidence shortly following the height of the vacation season, and much of it may be traced to bad sanitation at vacation resorts. The report for 1912 of the New York State Board of Health shows that in that state the occurrence of typhoid in country and city was in the proportion of 12.8 in the former to 14.5 in the latter per hundred thousand of population; deducting the number of cases which investigation would clearly determine had originated at rural summer resorts, the figures would undoubtedly be in favor of a lesser origin in the city. Taking this disease as the index, the necessity for care in selecting a place to spend the summer vacation is apparent.

Current Comment

SANITAS IN RURE

In the North Atlantic states in 1910, 48 per cent. of the people lived in small towns and country districts comprising 99 per cent. of the land, and 52 per cent. lived in cities of 300,000 and over comprising the remaining area of 1 per cent. The lure of the great city, a theme saturated with tragedy, has been written of many times; we speak of it merely to call attention to a pamphlet by Dr. Frederick L. Hoffman[1] which sets forth one phase of the problem—how to keep in the country those whose only capacity for city life lies in their ambition to be of the madding crowd—and to urge those who have failed in the city to go back to the land. Hoffman points out that longevity and diminished liability to disease are decidedly favored in the country. The typhoid fever mortality-rate is higher in the country than in the city, but the difference is much less than has often been assumed. Although the mortality from malaria has been higher, and in many places no doubt still is so, mosquito elimination has greatly reduced the number of cases of malaria in rural districts. While influenza, dysentery, apoplexy, paralysis, heart-disease and peritonitis also seem more common in the country, some of these are diseases of old age, and the difference is undoubtedly in great measure by reason of a larger proportion of old persons in the country, the young having migrated to the city. On the other hand, the causes of death more common in the city are venereal diseases, cancer, alcoholism, meningitis, enteritis, bronchitis, the pneumonias, tuberculosis, cirrhosis of the liver, appendicitis, Bright's disease and death from violence. It is hardly to be hoped that emphasis on the greater healthfulness of the country will influence any one, however unfit, who is determined to enter city life. No appeal of this or any other kind has hitherto proved effective in the history of civilization. Yet there is one consideration entirely aside from the superior healthfulness of the country that ought to interest the medical man. Many a young doctor would do well to choose the comparatively clear field presented by a country town rather than the city, congested, as it is, not only in population but also in medical competition.

CENTENARY OF THE "TOP HAT"

It is proposed to celebrate the centenary of the high hat, although this badge of male affluence, if not of respectability, seems to have existed before 1813. Made of beaver skin, plush or silk, high-crowned hats certainly existed before that year; but they rather approximated truncated cones than the cylindroid shape which has since obtained — as witness the shaggy, yellow "grandfather's hat," with the flaring bell crown, of the "Tippecanoe and Tyler too" period, the lofty stovepipe which Lincoln wore, and the tile of to-day, which no presidential inauguration and no household can be without. For a century at least the high hat has been civilization's symbol of somber splendor; it has been the appendage of man's highest estates, in whatever sphere of existence. In London no gentleman of the stock exchange will venture across the street, however hot the August day, not thus bedecked. In Darkest Africa the jungle potentate will evidence his *savoir vivre* by receiving the explorer clad in a "stovepipe," though lacking every other adornment save a smile of greeting, and possibly also a loincloth. By the high hat alone may all "exalted personages" be recognized; and in some instances, we regret to add, there is no other mark of identification. Who would to-day enter an equipage of state that is not driven by a coachman adorned with a "plug," no matter how old its vintage? The tile is ever reserved for occasions when it tops the utmost pulchritude of which man is capable; and great indeed is he who can wear it as gracefully and "as easily as a camel bears a Bedouin family, tent and furnishings and all, or a blithe little Sardinian donkey a load of grass"! *A woman's crowning glory is her hair; a man's crowning glory is his tile.* May not baldness, now so frequently observed in the human male, be concomitant with the vogue of the beaver hat? This structure fits tightly on the head. Is it not therefore possible that by compressing the blood-vessels, it leads to impoverishment of the scalp, which is the soil for hair to grow in? Neither hair nor plants (so our confrères in dermatology and botany assure us) will grow well if the soil be poor. A scalp favorable to hair growth is thick and pliable, and moves freely on the calvaria; a thin scalp drawn tightly over the skull will lessen the blood-supply in the vessels and cause pressure atrophy in the hair roots. Will not the tightly pressing beaver (the derby, too, for that matter) have the same devitalizing and depilatory effect? Women and savages (the terms seem now interchangeable in London) are seldom or never bald; why should civilized man be so? Is the reason to be found in the stiff hat? It has been observed that "measles is a disease, baldness an affliction, but a man's side whiskers are his own fault." Is a man's baldness also his own fault?

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[1] Hoffman, Frederick L.: Rural Health and Welfare, published by the Prudential Life Insurance Company.

THE RELATION OF INFECTIONS WITH COLON BACILLI IN WOMEN, AND HERPES OF THE FACE AND MOUTH

Schottmüller[1] calls attention to a hitherto apparently unnoticed relationship between infections with colon bacilli of the genito-urinary tracts in women and herpes of the face, especially the lips and mouth. He observed the occurrence of typical herpetic eruptions in altogether fifty cases of some form of infection with colon bacilli, mostly cystopyelitis and postabortive puerperal processes. Inasmuch as the cases were observed within a comparatively short time, Schottmüller believes that under certain circumstances colon infections are characterized by facial and oral herpes, which consequently may be of diagnostic significance, especially in pyelitis. As the herpetic lesions were not associated with invasion of the face and mouth by colon bacilli, in other words, were not metastatic in nature, the action of certain toxic products which have special affinities for the tissues in question must have been involved. In Schottmüller's cases the herpes did not develop in the course of any special nerves. The blisters were large and the lining of the mouth was frequently affected, suggesting that among the various kinds of herpetic eruptions those associated with certain colon infections perhaps may be found to constitute a special group. Formerly fever associated with herpes of the face was interpreted by some as a distinct disease; Griesinger, for instance, described a "herpetic fever." We now know that "fever blisters" occur in several infectious diseases, as pneumonia, malaria and meningitis, and also in arsenical poisoning and in plumbism, as well as without any apparent cause. The real nature of herpes is not understood. As indicated by Schottmüller, herpes does not necessarily depend on a local infection, at least when associated with colon infections of which Schottmüller shows it may be a symptom.

THE MOVING-PICTURE SHOW AS A HEALTH PROBLEM

The popularity of the moving-picture theater as a form of cheap entertainment for the masses has directed attention to several of its undesirable features. In Chicago it is said that 250,000 persons, a considerable portion of whom are children, attend these theaters daily. Most of the theater buildings are cheap storerooms, remodeled for the purpose, often, without adequate provision for ventilation. It is estimated that the air in one of these theaters will pass through the lungs of the audience in from six to eight minutes. They therefore constitute, as the *Chicago Health Bulletin* remarks, one of the health problems called into existence by modern customs and conditions. In cities all over the country, the problem is practically the same, involving the rôle of contact or close association in the spread of "colds" and the various infectious diseases. It is a matter of observation that the incidence of the various infective diseases of childhood immediately increases on the opening of the schools in the fall on account of the increased opportunity for contact between infected and non-infected children. It may therefore be reasonably assumed that the close contact in the moving-picture theater is also a factor in the distribution of infectious diseases. Since it is not easy to exclude those who have diseases or who come from homes where disease exists, well-considered regulations as to ventilation and sanitation should be enforced for the protection of the public.

Medical News

ARKANSAS

New Officers.—Fulton County Medical Association organized at Salem, April 5: president, Dr. C. W. Culp, Mammoth Springs; secretary-treasurer, Dr. J. L. Weathers, Salem.——Ouachita Medical Society at Camden, April 4: president, Dr. J. W. Meek; secretary-treasurer, Dr. Calvin S. Early, both of Camden.

Personal.—Dr. T. M. Rice, Avoca, was awarded the verdict at Bentonville, April 4, in the suit brought against him by W. L. Roller for $10,000 for alleged malpractice.——Dr. W. A. Harvey, Berryville, was caught under a falling tree in a windstorm and seriously injured. He was not found by searching parties for two days, and was then almost dead from exposure.

Disastrous Fire in Hot Springs.—As the result of an explosion in the basement of the building occupied by the Central Sanatorium, Hot Springs, the building and the adjoining building were destroyed, burning out the offices of Dr. E. F. Winegar, Leonard R. Ellis, A. C. Ellis, M. F. Mount, S. D. Weil, Zuber N. Short and James H. Chestnutt. The physicians were unable to save any of their property as they were occupied in caring for the victims of the explosion.

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Hospital Notes.—The cornerstone of the West Suburban Hospital, Oak Park, was laid with Masonic ceremonies, April 12. ——It is announced that Deaconess Hospital, Peoria, will be completed and ready for occupancy, September 1.

New Officers.—Rock Island County Medical Association at Rock Island, April 8: president, Dr. W. D. Snively; secretary, Dr. W. D. Chapman, Silvis.——McLean County Medical Society at Bloomington, April 3: president, Dr. W. H. Gardner; secretary-treasurer, Dr. Thomas D. Cantrell, both reelected.

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Mary Harris Thompson Memorial.—On April 15 a memorial service commemorating the death of Dr. Mary Harris Thompson was held at the Mary Harris Thompson Hospital, Adams tent and furnishings and all, or a blithe little Sardinian donkey a load of grass"! A woman's crowning glory is her hair; a man's crowning glory is his tile. May not baldness, now so frequently observed in the human male, be concomitant with the vogue of the beaver hat? This structure fits tightly on the head. Is it not therefore possible that by compressing the blood-vessels, it leads to impoverishment of the scalp, which is the soil for hair to grow in? Neither hair nor plants (so our confrères in dermatology and botany assure us) will grow well if the soil be poor. A scalp favorable to hair growth is thick and pliable, and moves freely on the calvaria; a thin scalp drawn tightly over the skull will lessen the blood-supply in the vessels and cause pressure atrophy in the hair roots. Will not the tightly pressing beaver (the derby, too, for that matter) have the same devitalizing and depilatory effect? Women and savages (the terms seem now interchangeable in London) are seldom or never bald; why should civilized man be so? Is the reason to be found in the stiff hat? It has been observed that "measles is a disease, baldness an affliction, but a man's side whiskers are his own fault." Is a man's baldness also his own fault?

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TEXAS

ociety.—The Menard-Himble County Medical Associa- organized at Menard, March 26.

ntine Proclamation.—The annual proclamation was March 27 declaring that quarantine is established on the oast and Rio Grande border on and after April 1, to con- ntil closed by proclamation.

y Camp Ready.—Four tents have been erected on the ds of the City Hospital, Dallas, for the baby camp to be ucted by the Dallas County Graduate Nurses' Association. camp will accommodate twelve or fourteen babies.

ate Examining Board Reorganizes.—The State Board of lical Examiners held its annual meeting at Waco, March 18 l elected Dr. J. H. Evans, Palestine, president; Dr. J. F. iley, Waco, vice-president, and Dr. W. L. Crosthwaite, Waco, cretary-treasurer. The new members of the board are Drs. . E. Morrow, Austin, and G. W. Johnson, San Antonio.

Personal.—Dr. Henry C. Hartman, Austin, state bacteriologist, has been appointed assistant state health officer. ——Dr. A. W. Browning, Fluvanna, charged with shooting J. F. Dowdy, was brought to trial at Snyder, April 3, pleaded an alibi and was acquitted.——Dr. Douglas Saunders Edwards, San Marcos, has returned from Europe and will locate in San Antonio.

New Sanatoriums.—A four or five-story sanatorium is to be erected on a lot 181 by 181 at Swiss and Haskell Avenues, Dallas, by Dr. W. W. Samuell, Dallas. The building is to be of reinforced concrete, will cost about $75,000 and will be known as the Dallas Sanitarium.——A two-story reinforced concrete building, erected by the Texas Antituberculosis Association for the treatment of children suffering from tuberculosis of bones, is ready for occupancy. The building is located on the Seeley Hospital grounds, Galveston, and cost about $20,000.——It is stated that the joint city and county sanatorium, Fort Worth, will be ready to receive patients July 1.

VIRGINIA

New Hospital.—Drs. George B. Johnston, A. Murat Willis and other physicians of Richmond are interested in the erection of a new hospital at Rocky Mount, for which plans are being prepared. The hospital will accommodate seventy-four patients and will cost approximately $50,000.

Personal.—Dr. Lee J. Hammett has become resident physician at Mountain View Sanatorium.——Dr. William M. Randolph, Charlottesville, has resigned as local member of the board of visitors of the University of Virginia.——Dr. C. Curtis Hudson, medical inspector of the health department of Richmond, has resigned to become health officer of Danville.

Society Meeting.—At the meeting of the Richmond Academy of Medicine and Surgery, April 8, Dr. Charles H. Jaeger, New York City, read a paper on "Mechanotherapy and Other Recent Advances in Therapeutics."——The Southside Virginia Medical Association held its quarterly meeting in Richmond, March 11, and in the evening held a joint meeting with the Richmond Academy of Medicine and Surgery.

WASHINGTON

Fire in Hospital.—A fire which started from a defective flue, in the Gruwell Hospital, South Bend, caused a loss of about $2,000 to the building. There were no patients in the hospital at the time.

Personal.—Dr. W. E. Russell, Walla Walla, who was operated on recently in Rochester, Minn., has returned, much improved in health.——Dr. H. H. McCarthy, Spokane, is reported to be seriously ill with septicemia, due to an operation wound.—— Dr. A. J. Ghiglione, Italian consul in Seattle, has been given by King Victor Emanuel, the decoration of cavalier of the Crown of Italy.——Dr. Cora Clementine Bash, Port Townsend, sailed from Seattle for China, March 18. Dr. Bash spent the years from 1896 to 1899 in China and returns as a medical missionary on the staff of the hospital at Peking.——Dr. J. C. Mack, Walla Walla, is reported convalescent from an operation for the removal of gall-stones.

WEST VIRGINIA

State Sanatorium Opened.—The West Virginia Tuberculosis Sanatorium, two miles east of Terra Alta, has recently been opened. It is known as Hopemont and consists of a receiving building, two stories in height with a frontage of 163 feet and two one-story cottages each 137 by 26 feet. The institution has accommodation for sixty patients.

Antituberculosis Train.—A portion of the $9,900 appropriated by the recent legislature for the educational work of the West Virginia Antituberculosis League is to be expended in sending a special car, donated by the Baltimore and Ohio Railway Company, over the state in order to give lectures and demonstrations. Dr. Harriet B. Jenks, Wheeling, has been appointed director of this campaign.

WISCONSIN

County Sanatoriums.—Manitowoc is said to be the first county in the state to complete a county tuberculosis sanatorium. This building, erected at a cost of $15,000, is now ready for occupancy. It is a two-story structure and at present has accommodation for twelve patients.——At the annual election in Winnebago County, April 1, the question of bonding the county for the purpose of building a tuberculosis sanatorium was carried by a majority of 1,000 votes.

Public Health Bureau Established.—A bureau of public health has been established by the State of Wisconsin. It is to be under the University Extension Division and under the direct charge of Dr. Hoyt E. Dearholt of Milwaukee. The plan is to provide the public of the state with authentic, scientific information in intelligible form, regarding disease prevention, hygiene, care of the sick, etc. The most important problems are to be presented first in the form of popular bulletins.

GENERAL

Pediatrists to Meet.—The twenty-fifth annual meeting of the American Pediatric Society will be held in Washington, D. C., May 5 to 7. The sessions will be held at the New Willard. Dr. John Lovett Morse, Boston, is president and Dr. Samuel S. Adams, Washington, secretary.

Interns for St. Louis City Hospital.—Of the forty-five appointments for positions as interns to be filled in the St. Louis City Hospital, thirty-nine have already been made. Of these twenty-six come from Chicago, six each from Philadelphia and St. Louis, five from New Orleans and two from Texas.

Will Discuss Tropical Diseases.—The tenth annual meeting of the American Society of Tropical Medicine will be held in the Hotel Bellevue, Washington, D. C., May 6 to 8, under the presidency of Dr. Edward R. Stitt, Washington. There will be a general discussion on "Is the Importance of Intestinal Parasites in Tropical Pathology Exaggerated?" The secretary is Dr. John M. Swan, 457 Park Avenue, Rochester, N. Y.

Bequests and Donations.—The following bequests and donations have recently been announced:

Lancaster (Pa.) General Hospital, $5,000 to endow a bed to the memory of Charles B. Grubb, donated by Miss Daisy E. B. Grubb.

Methodist Hospital, Philadelphia, $5,000 for the establishment of a free bed in memory of his sister, Sarah Benner, and Presbyterian Hospital, $5,000 for a free bed in memory of his mother, Mary H. Benner, by the will of Samuel T. Benner.

Gynecean and University Hospitals, Philadelphia, each $10,000 by the will of Lucy W. Drexel.

Maimonides Kosher Hospital, Chicago, donations of $15,000 from A. Slimmer and $10,000 from Julius Rosenwald.

International Congress on School Hygiene.—The Fourth International Congress on School Hygiene—the first in the United States—will be held in Buffalo, August 25 to 30. The program is to cover the entire field of school hygiene with the object of improving the conditions surrounding schoolchildren everywhere. The officers are Dr. Charles W. Eliot, president; Dr. William H. Welch and Dr. Henry P. Walcott, vice presidents; Dr. Thomas A. Storey of the College of the City of New York, secretary general, and Dr. Francis E. Fronczak, the Buffalo member of the executive committee. Delegates will attend from all the leading nations, from every college and university of note in this country and from various other educational, scientific, medical and hygienic organizations. Buffalo has raised a considerable sum for the expense of the congress and the entertainment of those in attendance. In the general movement toward the procuring of better hygiene and sanitation, efforts directed toward the better health and efficiency of schoolchildren constitute a highly important part, and this congress should be encouraged by a large membership and attendance.

FOREIGN

Other Deaths Abroad.—Aside from the deaths reported by our foreign correspondents, the following are noted: Philip Frank, M.D., Berlin, 1853; F.R.C.S., England, 1856; thereafter

William H. Park of the research laboratory of the department, Dr. John W. Brannan of Bellevue and allied hospitals and Dr. Hideyo Noguchi of the Rockefeller Institute.

New York Lying-In Hospital.—The report of this institution shows that during the past fiscal year 5,703 children were born within its walls. The outdoor department had recorded 3,735 births, making a total of 9,438 who have received gratuitous treatment during the year. The statistics show the smallest known mortality for such an institution, a mortality among the most lowly that is not surpassed among the most prosperous. It was recalled in connection with this report that this hospital owes its existence to J. Pierpont Morgan who contributed over a million and a quarter dollars toward the present structure.

NORTH CAROLINA

National Guard Appointments.—Governor Craig has announced the following appointments in the Medical Corps of the National Guard of the state: Inspector-general—Col. Thomas Stringfield, Waynesville; surgeon-general—Col. S. Westray Battle, Asheville; majors—Drs. Eugene B. Glenn, Asheville; Francis J. Clemenger, Asheville; A. R. Winston, Franklinton; J. V. McGougan, Fayetteville; S. L. C. Clark, Scotland Neck and E. C. Boyette, Charlotte; captains—Drs. M. B. Abernathy, Reidsville; W. C. Horton, Raleigh; H. A. Newell, Louisburg; A. K. Tayloe, Washington, and R. A. Campbell, Statesville; and first lieutenants—Drs. Hubert B. Haywood, Raleigh; R. S. Stephens, Raleigh; E. F. Fenner, Henderson; John Tinsley, eensboro; R. S. McGeachy, Raleigh; Henry Norris, Ruther- ton, and James M. Lynch, Asheville.

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Progress in Hookworm Eradication.—The quarterly report of the Hookworm Commission of the North Carolina State Board of Health shows that during the three months ended March 31, state and county dispensaries for the free examination and treatment of hookworm disease were conducted in twelve counties; that 35,472 persons were microscopically examined for hookworm disease and 10,684 persons received free treatment for the disease. Up to date, 216,616 persons have been examined in the state of whom 122,656 have received free treatment. The dispensary work has been carried on in sixty-five counties and six additional counties have provided for it, making a total of seventy-one counties; five counties have also made provision for a second round with dispensary work. Dr. H. L. Sloan has entered the service of the State Board of Health as assistant director of the hookworm campaign, vice Dr. C. F. Strosnider, resigned.

NORTH DAKOTA

New Secretary of State Board.—Dr. C. J. McGurren, Devil's Lake, the newly appointed secretary of the State Board of Health, assumed charge of his office, April 1, and the papers, records and documents of the board have been shipped to him. The stenographer of Dr. James Grassick, Grand Forks, former secretary of the board, will continue in the office of Dr. McGurren.

Personal.—Dr. Knut A. Wadel, Portland, has returned from Europe.——Dr. B. D. Verret, Rolla, has been appointed a member of the board of trustees of Dunseith Tuberculosis Sanatorium, vice Dr. D. Lemieux Dunseith, resigned.——Dr. J. G. Lamont, Cando, has been elected superintendent of the State Tuberculosis Sanatorium, Dunseith, vice Dr. J. P. Widemeyer, Rolla, resigned.

OHIO

Personal.—Dr. L. L. Bigelow, Columbus, is reported to be ill with smallpox.——Dr. J. D. McAfee, superintendent of the City Hospital, Cleveland, has resigned, to take effect July 1. ——Dr. H. J. Gerstenberger has been given a leave of absence until November 1 by the Cleveland Health Board and will spend the summer in Europe.

Flood Notes.—Eleven members of the faculty and thirty senior students of Starling Medical College went to Dayton at the time of the flood and it is said rendered excellent service.——The staff of the Cincinnati Hospital has appointed a committee consisting of Drs. Charles E. Caldwell, Joseph Ransohoff and John C. Oliver to represent the hospital and medical department of the university in soliciting subscriptions for flood relief to be used for physicians only. This committee has been augmented by a committee from the Cincinnati Academy of Medicine, consisting of Drs. Walter L. Griess, John E. Greiwe and Charles A. L. Reed.——The Ohio-Miami Medical College Alumnal Association of the University has joined in the movement by dispensing with the annual meeting and banquet and donating the dues of its members to the fund. Subscriptions for this fund may be sent to Dr. Charles E. Caldwell, treasurer, 648 Main Street, Cincinnati.

OREGON

Medical College Merger.—It is reported that the medical department of Willamette University, Salem, has been merged with the medical department of the University of Oregon, located at Portland, the merger to take effect at the conclusion of the present college year. There will hereafter be but one medical college in the state.——A biennial appropriation of $45,000 is reported to have been made by the Oregon legislature for the medical department of the State University.

PENNSYLVANIA

Plans for Abington Hospital.—Architects are preparing plans for a two and one-half story brick building, 50 by 100, for the Abington General Hospital.

Typhoid at Royersford and Spring City.—The State Health Department has assumed charge of the typhoid situation at Royersford, and has discovered that all of the stricken persons were employed at the Crander Stove Co. Works. Up to April 11, in two places 16 cases and 3 deaths had been recorded. Dr. Joseph Scattergood, West Chester, Chester County Medical Inspector, has taken charge of the situation for the state health authorities at Spring City, and Dr. Whitcomb, Norristown, Montgomery County Medical Inspector, is in charge at Royersford.

Philadelphia

Addition to Nurses' Home.—Work has been commenced on a four-story fire-proof addition to the Nurses' Home at Front Street and Lehigh Avenue connected with the Episcopal Hospital. The building will cost about $40,000.

Medical Club to Entertain.—The [illegible] Club of Philadelphia will entertain at a reception [illegible] held at the Bellevue-Stratford, April 25, the president and [illegible] court of common pleas, the orphans' court and the united district court.

Hospital Installs Therapeutic Baths.—The basement of one of the University Hospital wings has been outfitted as a laboratory of hydrotherapy, with baths, douches and all the most modern and scientific apparatus. This department is in charge of Dr. Josef B. Nylin, a graduate of the University Medical School, who has made a special study of therapy in this country and abroad.

Bulletin for Visiting Physicians.—For the information of visiting physicians, the Philadelphia Academy of Surgery has arranged to place each evening in the College of Physicians, a bulletin containing the operations to be performed in the various hospitals throughout the city the following day with a list of the operators. The following committee has been appointed to carry out the work: Drs. Charles H. Frazier, John B. Roberts and E. B. Hodge.

Special Schools and Classes for Afflicted.—The Orthopedic Hospital and the Board of Education have arranged for a class of orthopedic patients to be taught at the hospital by a teacher assigned by the latter board. For several years the Orthopedic Hospital has been providing instruction to about forty boys and girls who are suffering with physical handicaps, but able to obtain elementary education.——The Southwark School will open an eye clinic conducted by the Board of Health and under the supervision of Dr. L. C. Wessels, ophthalmologist of the Board of Health. This school already has a dental clinic where the children's teeth are examined and treated by the dentists there.

TENNESSEE

New Officers.—Nashville Academy of Medicine, April 1: president, Dr. Olin West; secretary, Dr. Joseph F. H. Gallagher. ——Robertson County Medical Association at Springfield: president, Dr. D. E. Davis; secretary, Dr. B. F. Fyke.

East Tennessee Physicians Meet.—The semi-annual meeting of the East Tennessee Medical Association will be held at Lenoir City, May 16-18, under the presidency of Dr. H. M. Cass, Morristown. Dr. J. G. Eblen, Lenoir City, is chairman of the local committee of arrangements.

Personal.—Dr. George D. Butler, Pulaski, has been appointed secretary of the State Board of Medical Examiners, vice Dr. C. A. Abernathy.——Dr. Raymond Wallace has been elected chief of the winter staff, and Dr. John B. Steele, chief of the summer staff of Erlanger Hospital, Chattanooga.

Cottages for Tuberculosis Patients.—The Memphis department of health has arranged for the construction of two additional cottages for tuberculosis patients, which, with the four

PARIS LETTER

(*From Our Regular Correspondent*)

Paris, March 28, 1913.

Poverty of Paris Medical Schools

M. Liard, vice-rector of the University of Paris, recently published in the *Revue de Paris* an article on the benefactors of universities which concludes by a statement of the needs of the institution. In this connection Dr. Pierre Delbet, a professor in the Faculté de médecine de Paris, has just published a letter in which he complains bitterly of the fact that the medical school is not mentioned by the vice-rector in the list of departments needing money. In many instances the insufficiency of the equipment of the medical school and in particular of the clinics is, according to Dr. Delbet, actually humiliating. The Faculté de médecine is wretchedly poor, and to instal clinics which can sustain comparison with those of other countries, many millions would be necessary.

Treatment of Obstinate Digestive Troubles of Infants by Small Doses of Ipecac

On March 25 Dr. Rousseau-Saint-Philippe, physician of the hospital of Bordeaux, read before the Académie de médecine a paper on the digestive troubles observed in children aged from 18 months to 2 or 3 years or even 4 and over which in their character, duration and resistance constitute really disease. These are constipation, intestinal atony, lack of appetite, dyspepsia and apepsia, with their consequences: intoxication, lack of nutrition, anemia, dystrophy and atrophy. These troubles are often prolonged by erroneous treatment and diet. A merely temporary improvement, or even the incomplete success of the methods of chemical antisepsis, show the uselessness of such efforts. Experience proves, on the other hand, that these troubles are due in the greater part to inactivity of the liver and deficiency of bile which act injuriously on diet, digestion and nutrition. It is necessary to act along this line. Cholagogues and especially ipecac seem to be the treatment of choice in such cases. It is necessary to employ the tincture of ipecac in small doses, progressing regularly and prolonged until the patient is entirely cured. At the same time it is necessary to modify the diet to diminish severity by varying it and augmenting it rationally.

Household Lead-Poisoning

There is a natural tendency to think that lead-poisoning is a disease exclusively of painters, plumbers and of some artisans who manufacture paint, etc. For some years, however, several other modes of lead-poisoning have been noticed which might threaten any one in daily life. Thus the lead water-pipes, when they are new or have been unused for a long time, and when there is very little mineral in the water, may bring on such troubles. Under certain circumstances the carbon dioxid of seltzer water may attack the siphon head and produce lead-poisoning if it has lead in it. At a recent session of the Société médicale des hôpitaux de Paris, Dr. Apert reported a case of lead-poisoning due to the use of tin tableware in which there was 10 per cent. of lead. This is the proportion employed in tin measures of capacity, and the composition parts with its lead if the food or drink contained in the vessel has any solvent agencies in it such as vinegar, condiments and acid fruits. This shows that the law ought to be as severe for tin vessels as for metal-lined kitchen-utensils, into the composition of which lead enters only in the proportion of 0.5 per cent.

Garbage Disposal

Experiments are being carried on in Paris on vehicles which are to be used in *arrondissements* for the removal of domestic refuse. The old open, dirty, insanitary wagons are to be replaced by low, air-tight, covered electric vehicles. The energy employed will be produced by the burning of the refuse collected the day before. The cleanliness of the city will be improved by the fact that the collection of refuse will be finished by 5 a. m. so that hereafter the streets may be swept and sprinkled after, and not before, the removal of this refuse.

Disguised Advertisements

For some time one of our largest daily papers has been publishing once a week a department of "scientific therapeutics." Under this pompous heading are given announcements of certain therapeutic specialties. The intention, according to the journal, is to present a number of specialties worthy to be recommended, with a brief explanation of their properties and indications. The journal declares that it has a rule to permit the insertion only of products experimented on in hospitals after they have been submitted to a double control, medical and pharmaceutical, but it refrains from saying of what this control consists, and by whom it is exercised.

Patents and Medical Apparatus

An interesting decision has just been given concerning the patenting of medical apparatus. A physician had devised an improvement on the apparatus employed for protection from venereal diseases. Use of the apparatus would necessarily contribute toward depopulation. When he asked for a patent the minister of commerce refused it, alleging that the invention was contrary to morals and that consequently no patent could be given. The Council of State has just annulled this decision on the ground that according to the law, patents are given without examination, at the risk of the applicant and without guarantee. The actual character of the patent is often misunderstood. It is not a guarantee of an invention by the government. It is merely a certificate of registration delivered without any guarantee in the interests of the inventor, who has a right during a certain time to the full and entire enjoyment of his discovery, and in the interest of society, after the cessation of this privilege. The minister is bound to issue the patent which is applied for, whatever the nature or character of the invention. Nevertheless, this principle of non-examination in the matter of a patent has a necessary corollary in the power of the courts to annul the patent in cases provided by law, among which is the case that the courts decide that the invention is contrary to morals. The Minister of Commerce is not the judge of this question, and thus without investigation whether or not the invention was contrary to morals, the council of state annulled the decision.

BERLIN LETTER

(*From Our Regular Correspondent*)

Berlin, March 28, 1913.

Personal

Professor Hedinger of Basel has been appointed director of the Königsberg Institute of Pathologic Anatomy, succeeding Professor Henke who has been called to Breslau.

University in Dresden

Since the foundation of a university at Hamburg, in spite of the great opposition, seems likely to be carried out, Dresden also wants a university, and prominent men are at work on the propaganda. The mayor of Dresden has published a pamphlet in which the plan for the foundation of the university is described more in detail. The university is to be combined with the already existing technical and veterinary colleges. The city is to appropriate $2,500,000 (10,000,000 marks) for this purpose, and the state a single sum of $75,000 (300,000 marks) for the erection of the university, and annually a sum to defray the expenses of the scientific departments.

Petition for Improved Birth Registration

The League for the Protection of Mothers (Bund für Mutterschutz) has addressed a petition to the imperial government demanding that the present German birth-rate statistics—from which it is impossible to learn the details as to the distribution of births among the different parts of the country, the different families, etc.—be amplified according to the French system, so that the causes of the birth-rate reduction in Germany may be recognized. According to this system the births will be recorded with mention of the age of the father and mother, the length of marriage, the miscarriages, and any severe illnesses of the husband and wife; further, the proportion of births to the number of married child-bearing women will be classified with reference to the different groups of population according to provinces, city and country, social standing and occupation of the parents, the nationality of the parents, income of the family, etc. It goes without saying that a much better insight into the conditions affecting births could be gained with such specialization of statistics. The question now remains whether the government will feel justified, in view of the results to be gained in this way, in appropriating so large a sum as such statistics would necessarily require.

Endowments in Connection with the Emperor's Anniversary

In accordance with the wishes of the emperor that he receive no personal gifts in connection with the twenty-fifth anniversary of his accession to the throne, June 15, but rather that endowments for philanthropic purposes be established, many communities are already occupied in collecting such funds. The number of these anniversary foundations, so far as published to date, amounts to over three thousand. The money thus contributed totals over $750,000 (3,000,000 marks).

for three years a member of the Royal Army Medical Corps; a surgeon on duty with the Anglo-American ambulance during the Franco-German War and thereafter until 1808 a practitioner of Cannes; died recently at his home in Kensington, London, aged 82.——Surgeon-General H. Skey Muir, M.D., Glasgow, 1863; M.R.C.S., England; a member of the Royal Army Medical Corps from 1864 to 1801, his service including the second Afghan War and the Kandahar campaign; later principal medical officer in India and Egypt and Deputy Director General of the Army Medical Service; died at his home in London, March 6, aged 71.——Peter Anderson, L.R.C.P. and L.R. C.S., Edinburgh, 1878; for thirty-one years a medical missionary in Formosa; died at his home in Stanley, Perthshire, Scotland, March 12, aged about 60.

LONDON LETTER

(From Our Regular Correspondent)

London, April 5, 1913.

Trade-Unionism and the Profession

As stated in my preceding letter, the question of forming a trade-union for the medical profession has become a burning one in the British Medical Association as well as outside it. In addition to one trade-union, the National Medical Guild, which I have mentioned, there is another one called the Leicester Union, which is registered at the large manufacturing town of Leicester. Indeed, this was the first "union of medical practitioners." Its objects are: (1) to regulate the relations and conduct of medical practitioners among themselves and between them and their employers; (2) to regulate rates of payment and conditions of lodge and other forms of contributory practice, and the terms and conditions on which medical service shall be given to persons of limited income, and (3) to impose any other restrictive conditions which may be considered desirable on the conduct by members of the union of the trade or business of physician carried on by them.

In furtherance of these objects the union adopts the following methods: (1) the establishment of a fund or funds; (2) the promotion of a system of medical service regulating medical attendance and provision of medicines for persons unable to pay ordinary medical charges (public medical service); (3) the promotion of a system or systems of school clinics for the treatment of necessitous children; (4) the giving of legal assistance to members in connection with the preceding objects; (5) the promotion of legislation for the protection of the union and for the general and material welfare of its members or the support of or opposition to alterations; (6) the advising of members in ethical matters: (7) the watching over, protection and promotion of the interests of members and medical practitioners generally; (8) the federation or amalgamation with other bodies having similar objects; (9) the establishment of branches, subdivisions or districts, and (10) any other lawful method which may be decided to be advisable in the general interests of the members as declared by a majority of two-thirds of those of the members present and voting at a general meeting. There is an entrance fee of $5, and an annual subscription not to exceed $5.

A large part of the latest number of the *British Medical Journal* is devoted to discussing the advantages and objections to the formation of a trade-union. It is pointed out that the real power of a trade-union depens on: (1) the inclusion of so large a majority of the persons engaged in a calling that the minority in case of a strike shall be negligible; (2) the constancy of its members in abiding by the decision of the majority, and (3) the power in the event of the union failing to come to an amicable arrangement with the employers to induce its members to strike. It is held that the insurance act increases rather than diminishes the need for an effective system against the encroachment by the government, friendly societies and other forms of contract practice.

Nostrums and the Insurance Act: Large Decrease in Sales

As anticipated, one good effect of the insurance act has been to curtail considerably the sale of nostrums as well as of simple remedies for minor ailments which are stocked by practically all pharmacists. Naturally when an unlimited supply of medicine can be obtained without charge on the prescription of an insurance physician, people are not willing to purchase remedies of any kind. In the past it has been common to resort to pharmacists to save the payment of physicians' bills. The decreasing demand for nostrums has been noted especially in industrial centers where a large proportion of the population are insured. Some pharmacists estimate the decrease in the sale of proprietary remedies at 20 per. cent.; the experience of others is that it is much larger. In some working-class centers the nature of the pharmacist's business has been almost completely changed, and in many pharmacies where the amount of dispensing was formerly negligible, sixt or seventy prescriptions, and in some even one hundred o more, are dispensed daily.

The Government Committee on Nostrums

At the last meeting of this committee, evidence was given by Mr. A. E. Barclay, a member of a firm of chemists, on behalf of the proprietary articles section of the London Chamber of Commerce (an association of nostrum venders). The only article manufactured by his firm was "Mrs. Johnson's American Soothing-Syrup." The British Medical Association analysis stated that the preparation contained considerable free hydrochloric acid, but Barclay declared that none was put in his product. The soothing-syrup made by his firm is described in "Secret Remedies" as a preparation of hydrochloric acid, common salt, saffron and honey to be rubbed on the gums. He was asked if the following statement on the labels did not suggest a government guarantee: "Mrs. Johnson having sold this preparation to them, Messrs. Barclay and Co. beg to refer purchasers to the government stamp with their name thereon as a security to the public," he would not admit the impeachment. His attention was also called to the statement issued to the British public, "As soon as the syrup is rubbed on the gums the child will recover, being as innocent as it is efficacious." On the other hand, in Australia where the authorities exercise some censorship of nostrum advertisements, the statement reads merely, "The syrup is rubbed on the gums." Another statement made to the British public was, "By opening the pores at an early age no child will have fits." That statement was omitted from the Australian labels. The witness admitted that this was rather a sweeping statement, but the firm adhered as much as possible to the old style of label!

Payment of Insurance Doctors

The National Insurance Practitioners' Association (an association formed, as stated in previous letters, by physicians who decided to work the insurance act at the time the British Medical Association endeavored to prevent this) has held a meeting presided over by Dr. Lauriston Shaw, who resigned from the council of the British Medical Association on the decision not to work the act. The conference expressed satisfaction at the decision of the commissioners that no further wholesale "signing on" of insured persons would be required. Physicians were urged to give the suggested card system a careful and thorough trial. It was resolved that further experience must be gained before it could be decided how many insured persons each physician could treat. The opinion was emphasized that at the termination of the present quarter all moneys for medical benefit should be allotted to the practitioners then on the panel in proportion to the number of insured persons on each physician's list, regard being had to the date at which the physician joined the panel. It was urged that after the first quarter the allotment of persons who had not chosen their physician should be carried out by a subcommittee appointed by the panel practitioners of each district, in accordance with a previously approved scheme. The meeting considered it imperative that medical representatives on insurance committees and on the advisory committee should use their influence to limit the number of officially recognized institutes and dispensaries, and to secure constant supervision in order to insure compliance with the regulations. The provision of medical attendance for persons on holiday and also for those away from their own area while ill or convalescent was discussed. Resolutions were passed that no deduction should be made from the funds at present available for medical benefit for the purpose of meeting any deficiency arising in particular cases, but that a separate and additional fund should be provided by the government for the payment of attendance on migratory insured persons. A resolution was also passed urging practitioners on the panel to consider the formation of a pension fund by means of contributions to be deducted at the source.

The Fund for Research in Tropical Disease

The advisory committee for the Tropical Disease Research Fund has issued a statement which shows that the revenue for 1912 was made up of contributions from the imperial government, $5,000; government of India, $2,500, and the Dominion and colonial governments, $8,725. The expenditure was allotted as follows: London School of Tropical Medicine, $7,655; Liverpool School of Tropical Medicine, $6,000; University of London, $3,756, and University of Cambridge, $1,750.

improvement of its conditions of existence (sick clubs, contract practice), and although there is a lack of practitioners in the country, an increase of doctors is nevertheless an object of utmost importance, as long as it is in accordance with the natural increase of the population (about 2 per cent. yearly). The expected increase of doctors, however, will average about five times that number. This is the danger threatening the position of our profession.

Miscellany

Theory of Muscle Degeneration and Rigidity in Pulmonary Tuberculosis.—J. L. Pomeroy summarizes his paper (*Interstate Med. Jour.*, St. Louis, October, 1912) as follows: In pulmonary tuberculosis certain definite neurologic signs and symptoms occur. These disturbances produce phenomena in the sensory, motor and autonomic centers, in several ways: (1) in a mechanical way, through intrathoracic anatomic changes; (2) through a direct effect of the circulating tubercle poison (and its accompanying enzymes) on the nerve tissues; (3) through the sympathetic pathways to the spinal segments according to Head's theory. It does not appear to be known definitely whether the symptoms in some instances of neuralgia, paresis of the muscles, etc., are the result of simple nutritional or functional disturbances in the nerves or muscles, or whether a distinct neuritis is the causative factor. Anatomic investigations of the peripheral nerves abundantly show degenerative changes in the nerves, not only of the extremities, but also in the vagus, the phrenic, the spinal nerve-roots and in some instances in the spinal cord itself. In many instances loss of reflexes, changed electrical reaction and paralysis or atrophy give the distinct picture of a neurologic basis for the clinical symptoms. Furthermore, post-mortem examination showed that in many cases the neuritis was latent—there were no clinical symptoms before death. Furthermore, the frequent occurrence of hyperalgesia and other disturbances of sensation in the skin over the chest-wall, based on Head's segmental theory, leads us to believe that practically in every case symptoms of such conditions exist. While in many instances the etiology is not clear, there being previous history of alcohol, syphilis and other conditions, Pomeroy does not conclude that these are necessary causative factors. Many similar observations have been made when such influences were absent. The same may be said in regard to a neurotic or hysteric basis for these neurologic findings. Therefore it is Pomeroy's belief that pulmonary tuberculosis causes distinct symptoms in the sensory, motor and sympathetic systems; that these symptoms are specific for that particular case in that they result from the tuberculosis lesion, either mechanically or as a circulating poison; and that further, to a more or less degree, one will observe these signs in every case, and the more closely one observes the more frequently they will be demonstrated.

The Ear in Typhoid.—In a communication on this subject in the *Revue hebd. de laryngologie*, 1912, xxxiii, 369, Vergues states that he found the ear affected in 7.4 per cent. of 295 cases of typhoid at the Cherbourg Marine Hospital from 1900 to 1907, and in 8.07 per cent. of 395 later cases. The severity or mildness of the typhoid did not seem to influence the development of the ear affection, the condition of the nasopharynx being the main point. He never found the typhoid bacillus in the pus from the middle ear, and there is a possibility that the otitis is not due directly to the typhoid bacillus. Treatment should be by prophylaxis, by striving to disinfect the nasopharynx, by keeping the mouth clean, by sprays and gargles, and by treating energetically any lesions that may develop in the throat. Once present, the otitis should be treated the same as under other conditions. Vergues warns that intractable ear disease in later life is frequently traceable to a neglected ear complication of some apparently mild acute infection in childhood. The ears should be examined with as much care as the heart, kidneys and lungs in all acute infectious diseases. The internal ear was affected in only one of his last series of 359 typhoid cases. Simple hyperemia and slight serous suffusion of the internal ear may subside without leaving a trace, but the hearing is generally permanently lost when there is hemorrhage in the labyrinth or even a large serous effusion. Local treatment of the throat is of no use in preventing involvement of the internal ear in typhoid, but quinin and salicylates should be avoided or suspended as their elective action on the auditory nerve may weaken it and thus render it more sensitive to infection brought by the blood. Mercury and iodid and possibly subcutaneous injection of pilocarpin have been recommended by Hill when the internal ear shows signs of trouble.

The Ultimate Catastrophe.—Some years ago a theory was enunciated that at the birth of organic life on the earth there was no free oxygen in the atmosphere, while there was a large amount of carbon dioxid. The elaboration of this idea gives us a feasible explanation of the course of life on this planet. The flight of weighty reptiles like pterodactyls, which were cold-blooded, slow to move, and clumsier to look at than Cody's "cathedral" would imply an atmospheric density greater than that of to-day. The plants of the carboniferous age split up the carbon dioxid, assimilated the carbon and freed the oxygen for the use of animals. If the plants ultimately gave up their carbon we would have a balance of animal and vegetable life, but large quantities of carbon are buried with the dead plants, and have become incorporated with the crust of the earth. The carbon content of the air is decreasing and plant life is on the down grade, too. The great beasts that fed on the plants are gone. Increased oxygen produces more active animals, who can search a wider field for vegetable food, but the steady carbonic drain continues. Ultimately there will not be enough food for the most actively oxygenated vegetarian, and unless one of the other of the factors for life's extinction gets busy first the races of the earth will slowly starve. Our days are literally as grass.—*Med. Press and Circ.*

Marriages

Howard FitzGerald Clark, M.D., Syracuse, N. Y., to Miss Lillian Belle Bronson of Camden, N. Y., March 26.

Otto Leslie Castle, M.D., to Miss Blanche Louise Rosencrans Blades, both of Kansas City, Mo., April 10.

Hawkins D. Westmoreland, M.D., Huntsville, Ala., to Miss Maude Mathis, at Nashville, Tenn., March 31.

Claude R. G. Forrester, M.D., to Miss Georgia Sang Post, both of Chicago, at Los Angeles, Cal., April 5.

Joseph Bird Cowherd, M.D., Kansas City, Mo., to Miss Leila Price Grant of Danville, Ky., April 15.

George Hay, M.D., Johnstown, Pa., to Miss Mary Louise Austin of Oak Lane, Philadelphia, April 12.

Edward Wadsworth Peterson, M.D., to Miss Mary E. Fletcher, both of New York City, March 2.

John D. Stewart, M.D., Indianapolis, Ind., to Miss Olga Petrova at Kansas City, Mo., March 31.

William Clyde Roberts, M.D., Dundee, Ill., to Miss Theodosia Harrison of Ottumwa, Ia., April 2.

Alfred Charles Radloff, M.D., to Miss Florence Ethel Hamilton, both of Milwaukee, April 1.

Hardie Lynch, M.D., Salt Lake City, to Miss Mattis Moffett of Philadelphia, at Denver, April 5.

George J. McChesney, M.D., to Miss Katherine McGeein, both of San Francisco, March 27.

Andrew Wade Morton, M.D., to Ada Scott-Conner, M.D., both of San Francisco, March 31.

Frank Miller Trimmer, M.D., Chicago, to Miss Gertrude Jones of Knoxville, Ia., March 7.

Thaddeus Edgar Tabb, M.D., to Miss Allie Blanche Stewart, both of Lorena, Tex., April 16.

George Alfred Aiken, M.D., to Miss Daisy Franklin, both of Malta Bend, Mo., April 2.

Robert Alfred Black, M.D., to Miss Mary Cleland, both of Chicago, April 16.

Deaths

Julian Augustus Mead, M.D. Harvard Medical School, 1881; acting assistant surgeon, U. S. Army; a member of the American Medical Association and Association of Military Surgeons of the United States; for several years surgeon of the Fifth Infantry, M. V. M.; a member of the Massachusetts State Board of Health since 1890; post surgeon at the Watertown Arsenal and visiting physician to the Perkins Institution for the Blind; for six years chairman of the Watertown school board and a trustee of the public library, and for many years president of the Watertown Savings Bank; for three terms medical examiner for the Seventh Middlesex District; died at his home in Watertown, March 30, from heart disease, aged 56. As a tribute to his memory, all the public offices of Watertown were closed on the day of his funeral.

D. Rankin Stubblefield, M.D. Vanderbilt University, Nashville, Tenn., 1879; University of Nashville, Tenn., 1879; professor of anatomy and physiology in Vanderbilt University for several years; since 1883 a dentist and for more than thirty years a member of the faculty, and later emeritus professor and dean of the dental department of Vanderbilt University; died at his home in Nashville, March 12, aged 56.

Warren R. King (license, Indiana, 1897); a practitioner since 1864; formerly a member of the American Medical Association; a member of the Indiana State Medical Association; a veteran of the Civil War; from 1908 to 1911 chief surgeon of the Indiana State Soldiers' Home, Lafayette; formerly national medical director of the Grand Army of the Republic; died at his home in Greenfield, March 30, aged 70.

Joseph Coddington Young, Jr., M.D. College of Physicians and Surgeons, New York City, 1873; a member of the Medical Society of New Jersey; at one time a member of the staff of St. Michael's Hospital, Newark; for many years chief medical examiner of the Mutual Benefit Life Insurance Company; died at his home in Newark, March 26, aged 62.

Gustav W. Barck (license, Minnesota, act of 1887); a practitioner for more than fifty years; for two years president of the Freeborn County Medical Society; for fourteen years a member of the Albert Lea Board of Health; a surgeon of volunteers during the Civil War; died suddenly on a street in Albert Lea, March 27, aged 80.

Frank Little, M.D. University of Wooster, Cleveland, 1881; a member of the American Medical Association and American Electrotherapeutic Association; for several years a member of the visiting staff of Kings County Hospital and of the Spear Sanitarium, Brooklyn; died at his home in that city, April 4, from heart disease, aged 57.

Henry Cundell-Juler, M.D. London, Eng., 1847; F. R. C. S., 1853; formerly surgeon to the Aberdeen Royal Infirmary, Scotland; a resident of Covington, Ky., and Cincinnati since 1866; a graduate of the Cincinnati Law School in 1875; died at the home of his nephew in Cincinnati, April 3, from senile debility, aged 86.

R. C. Pierce, M.D. Indiana Central Medical College, Greencastle, 1848; a practitioner of Indiana until 1882 when he moved to Kansas and later, after several years, to Missouri; a licensed preacher of the Methodist Church; died at his home in Gallatin, Mo., March 13, from senile debility, aged 85.

John Jay Craig, M.D. Jefferson Medical College, 1901; formerly a member of the American Medical Association and at one time a member of the staff of White Haven (Pa.) Sanatorium for Tuberculosis; died at his home in Columbia, Pa., April 8, from pulmonary tuberculosis, aged 36.

Evert Evertson Tracy, M.D. Albany (N. Y.) Medical College, 1891; a member of the Illinois State Medical Society and Association of Military Surgeons of the United States; captain M. C., Illinois National Guard; died at his home in Prairie View, Ill., April 9, from nephritis, aged 43.

John Edwards, M.D. College of Physicians and Surgeons, New York City, 1869; a member of the Medical Society of the State of New York; for many years health officer of Gloversville; died at his home, April 4, from heart disease, aged 66.

Clarence Smith Rether, M.D. Jefferson Medical College, 1884; of Biglerville, Pa.; was found unconscious on the road near Gettysburg, Pa., April 27, and died a few hours later, from exposure, aged 58.

Charles M. Paynter, M.D. University of Louisville, Ky., 1881; of Lawrenceburg, Ky.; for several terms a member of the house of representatives; died in a hospital in Lexington, April 2, aged 58.

David R. Rust, M.D. College of Physicians and Surgeons of St. Joseph, Mo., 1886; a member of the Iowa State Medical Society, aged 63; died at his home in Whiting, as the result of injuries received a year before when he was struck by a trolley car in Omaha.

Norman Keachie MacLeod, M.D. University of Toronto, 1903; a member of the Medical Society of the State of New York; pathologist to the German, Columbus and Children's hospitals, Buffalo; died at his home in that city, April 3, from pneumonia, aged 34.

George H. Vastine, M.D. University of Pennsylvania, Philadelphia, 1891; a member of the Medical Society of the State of Pennsylvania; for sixteen years a practitioner of Catawissa; died at his home, March 30, from uremia, aged 45.

William Zoller, M.D. Hahnemann Medical College, Philadelphia, 1878; supervisor, health officer and president of the village of Fort Plain, N. Y., at various times; died at his home, April 3, from cerebral hemorrhage, aged 66.

William R. Brayton, M.D. Starling Medical College, Columbus, O., 1873; died at his home in Geneva, Ind., March 27, from the effects of chloroform, self-administered, it is believed, with suicidal intent, while despondent, aged 63.

Granville R. Lewis, M.D. Medical College of Virginia, Richmond, 1856; assistant surgeon in the Confederate service during the Civil War; died at his home in Lynchburg, Va., March 27, from cerebral hemorrhage, aged 78.

Henry William Kern, M.D. Northwestern University Medical School, Chicago, 1909; of Kankakee, Ill.; formerly an intern in Cook County Hospital; died at home of his parents in Dwight, Ill., March 29, aged 27.

John Howe Winch, M.D. University of Vermont, Burlington, 1880; of Northfield, Vt.; at one time a representative in the State legislature; died in the Heaton Hospital, Montpelier, March 28, aged 57.

George W. Johnson, M.D. Bennett Medical College, Chicago, 1879; for many years a practitioner of Lewistown, Ill.; died at the home of his daughter in Kansas City, Mo., April 3, aged 79.

Albert Sweeney Weir, M.D. Nashville, Tenn.; for twenty-five years disabled by reason of paralysis; died at his home in Collinwood, Cleveland, O., March 8, from rheumatism, aged 57.

Lucien V. Weathers, M.D. Jefferson Medical College, 1866; formerly of San Antonio, Tex., but for the last six years a resident of Fort Worth; died at his home, March 31, aged 67.

Joseph De Weese Stevens, M.D. Jefferson Medical College, 1883; a member of the Kansas Medical Society; died at his home in Peru, March 9, from cerebral hemorrhage, aged 79.

David E. Harding (license, Missouri, 1883); of Aurora; a practitioner for forty years; died at his winter home in Bradentown, Fla., March 17, from cerebral hemorrhage, aged 70.

James S. Blair, M.D. Eclectic Medical Institute, Cincinnati, 1875; a member of the Indiana State Medical Association; died at his home in Lynn, March 31, from nephritis, aged 62.

Ziba Hazard Potter, M.D. Geneva (N. Y.) Medical College, 1857; formerly a member of the faculty of Cornell University; died at his home in Bethlehem, Pa., April 1, aged 76.

Richard R. Trotter, M.D. Boston University, 1876; consulting physician to the Yonkers (N. Y.) Homeopathic Hospital; died at his home in that city, March 28, aged 63.

Abel P. Phillips, M.D. Eclectic Medical College of Pennsylvania, Philadelphia, 1867; died at his home in Bear Lake, Pa., February 17, from senile debility, aged 80.

Charles A. King, M.D. Graffenburg Institute, Dadeville, Ala., 1858; of Hot Springs, Ark.; died in a church in that city, March 31, from cerebral hemorrhage, aged 69.

Lorne Campbell, M.D. McGill University, Montreal, 1882; formerly of Montreal; died at his home in Peaton, Dumbartonshire, Scotland, March 26, aged 57.

William Henry Shimer (license, DeWitt Co., Tex.); a practitioner of Meyersville, since 1895; died at his home, March 6, from locomotor ataxia, aged 48.

Mary A. Ingersoll, M.D. Denver College of Physicians and Surgeons, 1909; died at her home in Denver, March 23, from heart disease, aged 63.

Lewis Smith Pendleton, M.D. Medical College of Virginia, Richmond, 1860; died at his home in Fredericks Hall, Va., March 28, aged 75.

George B. Hall, M.D. University of Pennsylvania, Philadelphia, 1891; died suddenly at his home in Shawmut, Pa., March 30, aged 46.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

THE "CLINICAL REPORTS" FALLACY

A signed editorial by Dr. W. A. Pusey appears in the current issue of *The Journal of Cutaneous Diseases* entitled: "Proprietary Remedies and the Dermatologist." It is an excellent and thought-provoking editorial. Here is the closing paragraph:

> "Hippocrates said 2,400 years ago, in words which Osler is fond of quoting, that 'Experience is fallacious and judgment difficult.' and it is an aphorism that one may well ponder when he is about to be carried away by clinical impressions in the estimation of the value of some new therapeutic agent. This country is sown with old indorsements of proprietary remedies based on clinical impressions that still come back to plague their authors. There is a proprietary vegetable alterative for syphilis of large sale, whose first credential is the testimonial given by one of America's greatest medical men on the basis of clinical impressions in the days of forty or fifty years ago, when 'alterative' was a conception to conjure with like 'radioactivity' is now. There is a lithia water for dissolving uric acid stones to whose efficacy one of America's ablest and best physicians gave written testimony. If there is anything that the history of clinical therapeutics proves, it is that experience is fallacious and judgment difficult."

THE CUNNINGHAM MAIL-ORDER SCHOOL

Three Depilatories That Are Being Sold by Cunningham Graduates

Most of THE JOURNAL'S readers remember its exposure of an impudent mail-order fraud known as "Marjorie Hamilton's Obesity Cure." This concern was operated by one Walter C. Cunningham, a man of unsavory reputation. Following THE JOURNAL'S exposure, the federal authorities took a hand and Cunningham and his wife were indicted by the federal grand jury and placed under arrest. The papers at the time stated that the court records showed that Cunningham had already served a jail term in Minneapolis and that he had at one time been connected with the Neal-Adkin syndicate of frauds at Rochester, N. Y.

When the selling of fraudulent obesity cures became somewhat risky, Cunningham turned his attention to another line of business. He started his "mail-order school" for teaching the mail-order business. His first series of advertisements stated:

> "With $100 and an idea, I built a business that brought me $650,000 in eighteen months."

Any man who has cut his business eye-teeth knows that if Cunningham is telling the truth in this advertisement, he must have been conducting a fraud, for it is evident that no legitimate business could pay such returns in that length of time. Nevertheless, some highly respectable newspapers accepted the Cunningham advertisement. Those people who answered the advertisement received a series of follow-up letters from Cunningham written in his most engaging style. Briefly, the offer was this: Send $15 cash and promise to pay an additional $85 at the end of six months, if "you are entirely satisfied with your profits." For this Cunningham offers to "furnish you thousands of names of my customers from my books," as soon as he receives the initial $15. Presumably these names are those of victims who have answered the advertisements of his previous mail-order frauds.

To show his prospective customers how easy it is to swindle the public through mail-order schemes, Cunningham describes a case in which a woman "started a mail-order business with a beauty cream costing her 5 cents a jar, which she is now selling for $5 a jar." Says Cunningham, with more eloquence than accuracy:

> "'There is a Time and Tide in the Affairs of Men which taken at its Ebb Leads on to Fortune.'"

When selling the Marjorie Hamilton Obesity Cure Cunningham first asked $15, but to those who were slow nibbling his bait, he would finally sell it for $1. So in his mail-order school while he first asks $100, payable $15 cash and $85 in six months' time, you can get it at a marked reduction, if you wait long enough. The third or fourth follow-up letter says:

> "Send only $10 for everything complete and we will forget the balance. . . ."

And if you still hold off, he comes down a month later to $5.

> "Now, if you can make up your mind that you really want to be independent for life and go into the mail-order business in deep, determined, dead earnest, and accept my offer of a Complete Course of Twenty Money-Getting Plans for Swift and Sure Mail Order Success, with all these wonderful plans, including absolutely free a full year's Advice, Ideas, Suggestions and General Business and Advertising Assistance from me personally, I will be willing to accept your remittance right now of Five Dollars for it all, and send you the Combined Mail Order Course and all the wonderful benefits that go with it."

That cupidity and ignorance may be appealed to by the Cunningham advertisements has recently been proved. A Chicago paper contained in its Sunday issue three classified advertisements all worded alike but emanating from different addresses. These advertisements read:

> FREE TO LADIES—The greatest superfluous hair remover treatment known: positively eradicates superfluous hair growths quickly. Liberal sample sent prepaid. Write quickly and beautify your face immediately. Address ....

The three addresses to which the readers were directed to write were:

Mrs. Arthur Everett, Providence, Rhode Island.
D. W. McNeal, Chicago, Illinois.
The Home Supply Company, Kokomo, Indiana.

Those who answered these advertisements received letters in imitation typewriting all worded alike except that the name of the product was different. Mrs. Everett, for instance, referred to her stuff as "Everett's Hair Foe;" D. W. McNeal had christened it "McNeal's Velvet Skin Depilatory;" while the Home Supply Company referred to it as "Our Velvit Skin Depilatory." One other minor difference was found in the letters. The Home Supply Company offers the stuff for $2.50, McNeal wanted $3, while Mrs. Everett requires $5.

In each case, samples were received—and the samples were all alike. The depilatory is a pale yellow powder having an odor of hydrogen sulphid. The instructions are to make a paste of the powder with a small amount of water and apply the paste to the hair that is to be removed. The powder was examined in the Association's chemical laboratory and found to consist of barium sulphid and starch.

Commercial barium sulphid is an inexpensive product and one wonders whether Mr. Cunningham had this particular fake in mind when he wrote the following, which appears in the booklet "How to Achieve Mail-Order Success," sent to those who answer his advertisements:

> "Let us suppose for instance just as an illustration, that when you get my Mail Order Course you decide to offer a certain preparation desired by millions of women. . . . Now, for example, we will assume you have selected the preparation I speak of. My *Course will show you how and where* to buy two pounds of this delightful preparation for about twenty-five cents. That will give you two pounds of the material ready for use. *It takes two ounces* of the preparation to make a complete outfit, or a complete treatment, which would last the customer one month. That two ounces you would sell for $5.00 (that is about the price that these special articles are sold for by mail)."

REXALL ORDERLIES AND OTHER REXALL PRODUCTS

Dr. John G. W. Knowlton, Exeter, N. H., asks for the formula of Rexall Orderlies. They were examined by the Kansas State Board of Health[1] and found to contain phenolphthalein as their essential constituent. The exploitation of phenolphthalein in the form of proprietary nostrums was discussed in THE JOUR-

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[1] Bulletin 10, October, 1911, vii, 187.

NAL, April 30, 1910, p. 1458, and a list of such products was given.

The Rexall products are sold by the United Drug Company. This organization, like the American Druggists Syndicate ("A. D. S."), consists chiefly of druggists who, not content with the profits derived from the sale of "patent medicines," started a cooperative organization for their manufacture and exploitation.. Something in regard to this firm's methods of exploitation was said in The Journal, March 23, 1912, p. 876. Some of the Rexall products will be found mentioned in the second edition of "Nostrums and Quackery." "Rexall Headache Wafers," for instance, are referred to in connection with the federal prosecution of the United Drug Company on the charge of misbranding, and the fine which this company had to pay. "Rexall Sarsaparilla Tonic" was declared misbranded in the annual report of the Connecticut State Agricultural Experiment Station.

ANTIMERISTEM-SCHMIDT

Readers continue to send in circulars they have received in regard to a serum for cancer called Antimeristem-Schmidt. These circulars seem to have been rather well distributed over the country. Physicians should be warned that it is useless to send abroad for this serum at present, because under the government rule requiring a license before serums or allied products can be imported into this country, it will not be admitted to this country. According to our latest information, Antimeristem-Schmidt has no license. The manufacturers who are sending these circulars to the United States seem to have overlooked this fact.

This serum was discussed at some length in this department, March 8, 1913, p. 776, and to that discussion we refer those who desire further information.

Correspondence

Encouragement of Medical Research

To the Editor:—The communication of Professor Hoskins in *Science* (A Plan for the Encouragement of Medical Research, *Science*, Feb. 21, 1913, p. 303), and your editorial (The Encouragement of Medical Research, The Journal, March 22, 1913, p. 906) suggest a means of aiding medical research which is generally neglected.

We have in this country a large number of funds, controlled by medical schools, societies or hospitals, which were established for the purpose of offering prizes for essays, dissertations or theses on various phases of effort in medicine. These are awarded, almost without exception, to the successful one of a group of persons who have submitted essays. Occasionally the essays represent definite and valuable research work, but for the most part the award goes to a man who has submitted an essay based only on a digest of the literature of the subject in question, or occasionally with also a perfunctory outline of experimental work or an analysis of a few clinical cases. Certain notable exceptions might be quoted, but the usual decision of the committee indicates that the object of the founders of these various prizes, if it was the encouragement of research work, is not as a rule attained.

That more representative investigative work is not offered for these prizes is due in all probability to the fact that in these days of rapid progress immediate publication is essential, and few active workers are willing to submit to the delays demanded by the rules of the various prize committees; this is especially the case if the latter dictate the place and method of publication, and, as sometimes happens, demand that expense of publication be defrayed from the prize money.

Two ways of overcoming the present difficulties are apparent. One is somewhat in line with the suggestion of Hoskins. Let each committee that is not hampered by the original conditions of the deed of gift on which the prize is founded give up the idea of the submission of a thesis, and instead award the prize to the one who, irrespective of locality, has published during the preceding year an investigation which they consider most meritorious in the field of endeavor represented by its prize, with the understanding that the money is to be used in defraying the expenses of the investigation in question or of a future investigation. Thus would worthy effort be recognized and encouraged, the better type of research fostered and financial aid, which is most important, would be given where it is most deserved.

Another method is that adopted by the Committee on Scientific Research and that on Therapeutic Research of the Council on Pharmacy and Chemistry of the American Medical Association, the Rockefeller Institute, and the Elizabeth Thompson Science Fund; this is the issuing of grants to individuals for the prosecution of definitely specified work. In the hands of these organizations this method has given excellent results and has been adopted, I understand, by one of the prize committees of the New York Academy of Medicine. I believe that it is possible to apply this method to all the prize funds controlled by our various medical organizations. In some instances the conditions of the original endowment might prevent the adoption of this method, but in most instances, with the consent of the heirs of the original donor, the change could be made.

To establish either or both of these methods satisfactorily it would be necessary, however, for some central body to tabulate and systematize our knowledge of the available prizes or grants, so that investigators in need of financial assistance could apply to this central authority and state their problem and needs. This body could then refer the applicant to the local committee most likely to offer assistance.

The subject is one which might well be referred to the Committee on Scientific Research of the American Medical Association, which body, if cooperation appeared eventually to be possible, might act as the central bureau for the distribution of information concerning the various funds available for research. Richard M. Pearce, M.D., Philadelphia.

The Indian Medical Service

To the Editor:—In your editorial "Health of the American Indian" (March 15, 1913, p. 832), you state that "the Indian medical service . . . is totally unable in its present status to cope with existing conditions successfully." It may interest you to know what is the present status of the individual physician.

He is directly subject to the superintendent, a layman who may or may not agree with his recommendations concerning sanitary measures. It is the superintendent who renders the department a report on the physician's "efficiency."

The physician in the Indian service is a "health officer" who in most instances is not furnished with a microscope, stains, etc., unless he wishes to purchase them out of his meager salary.

He must be careful not to request any favored employees to do anything that is distasteful to them.

Maybe he did not come from the "best class of candidates;" but let us hope a government check will not be his only reward for his work, for he can say of the American Indian:

> I have eaten your bread and salt;
> I have drunk your water and wine;
> The deaths ye have died I have watched beside,
> And the lives that ye led were mine.

An Agency Physician.

Another Method of Making Buttermilk

To the Editor:—Ever since Metchnikoff called attention to the health-conserving and life-prolonging properties of the Bulgarian bacillus, various preparations of this bacillus, real or pretended, have been used to make sour milk. As many housewives, however, dislike to add these germ-containing tablets to the milk, and as they are quite expensive and not everywhere available, sour milk is not nearly so extensively used as it should be. I was interested in Dr. Alexander Armstrong's suggestion (The Journal, March 29, 1913, p. 1015) to use a small glass churn to make buttermilk when needed. My wife originated a plan five or six years ago that is much simpler and more easily carried out than the churn. She makes the sour milk as follows:

Take sweet milk; let it stand for from twelve to twenty-four hours; skim off the cream and add 2 tablespoonfuls of previously soured milk to each quart of the skimmed milk; let it stand in a moderately warm place until it sours or thickens just enough so that it separates from the side of the containing vessel but not enough for the whey to separate; then set it in an ice-chest or other cold place until wanted for use (if preferred warm, it can be used immediately). Put the part to be used in a pail, small crock or other suitable vessel, and by means of a revolving egg-beater thoroughly mix or agitate it for two or three minutes, and you will have an aerated, foamy milk far superior to ordinary buttermilk. If a richer milk be desired, fresh milk, cream and all, can be treated in the same way. Save a small amount of the thickened milk each day to set up fermentation in the next day's supply. We have used this the greater part of the year for five or six years in our family and find it satisfactory.

E. Stuver, M.D., Fort Collins, Colo.

Using Health Cartoons Without Credit

To the Editor:—On page 1090 of The Journal, April 5, 1913, you speak approvingly of the illustration which appears on page 7 of the *Bulletin* of the Rhode Island State Board of Health for January, 1913, giving instructions for the making of a sanitary drinking-cup from a sheet of paper.

Permit me to invite your attention to the fact that the illustration in question was published in the *Bulletin* of the Chicago School of Sanitary Instruction, July 1, 1911.

G. B. Young, M.D., Chicago.
Commissioner of Health.

Safety-Razor to Cut Thiersch Grafts

To the Editor:—Since several physicians are reporting their use of the safety-razor as a knife, I wish to report my early use of it as a section-cutter for Thiersch grafts. In this it excels Thiersch's planoconcave razor or any other instrument I ever used. To make the safety-razor practical it is best prepared by grinding about one-eighth inch off the comb or guard. Then one can cut to the right angle, and the length of the graft is limited only by the size of the part from which it is taken. I first used the safety-razor in this way Aug. 20, 1909, to graft after a scald of buttock and thigh.

E. F. Conyngham, M.D., Bonner, Mont.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be *omitted*, on request.

LITERATURE ON MENTALLY DEFECTIVE CHILDREN

To the Editor:—Please give references to works dealing with the examination of mentally defective children, factors causing such defects, diagnosis and educational treatment.

G. H. Humphreys, M.D., New York.

Answer.—The following references include some good material on these subjects. First are given articles from periodicals, and then books.

Clark, L. P., and Atwood, C. E.: A Study of the Significance of the Habit-Movements in Mental Defectives, The Journal, March 23, 1912, p. 838.
The Problem of the Feeble-Minded, editorial, The Journal, March 16, 1912, p. 785.
The Care of the Feeble-Minded, London Letter, The Journal, June 22, 1912, p. 1956.
The Elimination of Feeble-Minded Strains, editorial, The Journal, Nov. 16, 1912, p. 1801.
A Natural Object-Lesson in Heredity, editorial, The Journal, Oct. 26, 1912, p. 1545.
New York Aid for the Feeble-Minded, *Survey*, March 23, 1912, p. 1950.
Our Most Conspicuous Failure, *Survey*, March 2, 1912, p. 1819.
Bannister, M.: Classification, Education and Medical Treatment of Feeble-Minded, *Jour. Iowa State Med. Soc.*, March, 1912.
Brewster, E. T.: Scientific Study of Fools, *McClure's Magazine*, July, 1912, p. 328.
Clark, L. P.: Idiocy and Laboratory Research, *Survey*, March 2, 1912, p. 1857.
Davenport, C. B.: Origin and Control of Mental Defectiveness, *Popular Sc.*, January, 1912, p. 87; Nams: The Feeble-Minded Country Dwellers, *Survey*, March 2, 1912, p. 1844.
Davis, K. B.: Feeble-Minded Women in Reformatory Institutions, *Survey*, March 2, 1912, p. 1849.
Edson: Education and Training of Feeble-Minded Children in Public Schools, *New York Med. Jour.*, Dec. 7, 1912.
Edson, Van Sickle and McCready: How Far Shall the Public-School System Care for Feeble-Minded? *Bull. Am. Acad. Med.*, August, 1912.
Fernald, W. E.: Templeton Farm Colony for the Feeble-Minded, *Survey*, March 2, 1912, p. 1873.
Goddard, H. H.: Elimination of Feeble-Mindedness, *Ann. Am. Acad Politic. and Soc. Sc.*, March, 1911; Basis for State Policy. Social Investigation and Prevention, *Survey*, March 2, 1912, p. 1852; Joint Meeting on Feeble-Minded and Epileptic, *ibid.*, June 15, 1912, p. 446.
Harris, J.: Degenerates, *Westminster Magazine*, June, p. 624.
Hedger, Caroline: Physical Examination of Below-Grade Children, *Illinois Med. Jour.*, June, 1909.
Johnson, E. H.: Feeble-Minded as City Dwellers; Mental Classification in the School, *Survey*, March 2, 1912, p. 1840.
Johnstone, E. R.: The Prevention of Feeble-Mindedness, *Jour. Am. Pub. Health Assn.*, February, 1911; Public Provision for the Feeble-Minded, *Survey*, March 2, 1912, p. 1864.
Kirkbride, F. B.: Right to be Well-Born, *Survey*, March 2, 1912, p. 1838.
Kite, E. S.: Two Brothers, *Survey*, March 2, 1912, p. 1861.
Little, C. S.: Letchworth Village Institution for the Feeble-Minded and Epileptic, *Survey*, March 2, 1912, p. 1869.
MacPherson, J.: Problem of Feeble-Minded, *Glasgow Med. Jour.*, May, 1912.
Phillipps, E. M.: Treatment of Feeble-Minded Children, *Nineteenth Century and After*, May, 1912, p. 930.
Sloss, R.: State and the Fool, *Harper's Weekly*, Feb. 3, 1912, p. 17.
Schlapp, N. G.: Feeble-Minded Boys and Crime, *Survey*, March 2, 1912, p. 1846.
Williams, Tom A.: Psychoprophylaxis in Childhood, *Pacific Med. Jour.*, February, 1910; Genesis of Hysteric States in Childhood, and Their Relation to Fears and Obsessions, *Brit. Jour. Child. Dis.*, February, 1911.
Ayers, Leonard P.: Laggards in Our Schools, Charities Publishing Company, New York.
Barr, Martin W.: Mental Defectives, P. Blakiston's Son & Co., Philadelphia, 1904, $4.
Binet, A., and Simon, T.: A Method of Measuring the Development of the Intelligence of Young Children, Courier Company, Lincoln, Ill., $1.
Dugdall, Robert L.: The Jukes, Edition 4, G. P. Putnam's Sons, New York, 1910, $1.50.
Goddard, H. H.: The Kallikak Family: A Study in the Heredity of Feeble-Mindedness, Macmillan Company, New York, 1912, $1.50.
Lapage, C. Paget: Feeble-Mindedness in Children of School Age, Longmans, Green & Co., New York, $1.60.
Tredgold, William A. F.: Mental Deficiency, Wood & Co., 1908, $4.

DESTRUCTION OF MOSQUITOES

To the Editor:—I am anxious to obtain some data regarding the elimination of mosquitoes in our neighborhood. I especially want to know the answer to the following questions:

1. The formula, or formulas, of the larvicide, other than oil, used in the Canal Zone; how to make it, dilute it, etc.; the method of use.

2. Is it (*a*) poisonous to animals drinking water in pools or streams containing it, (*b*) destructive to vegetable life, plants, flowers, grass, etc., among which it is used, (*c*) poisonous to fish in streams?

3. Is it possible to use safely copper sulphate solution for destroying mosquito larvae without injury to plant life? If so, how often should it be used, in what strength and what is the best method of application?

4. Can you suggest any method in a country neighborhood (suburban) which would be inexpensive and effectual and which the people would be apt to use?

J. P. Laird, M.D., Devon, Pa.

Answer.—1. The larvicide used in the Canal Zone is prepared as follows: Crude carbolic acid, containing about 15 per cent. of phenol, is heated to 212 F., finely pulverized resin is added, and the mixture kept boiling until the resin is all dissolved. Caustic soda is then added, and the solution kept at 212 F. for about ten minutes, or until a perfectly dark emulsion without sediment is obtained. The mixture is thoroughly stirred from the time the resin is added until the end. As the composition of crude carbolic acid varies greatly, the proportion of ingredients of the larvicide will vary, and it is necessary to have small experimental lots made in the laboratory and tested before the batch of larvicide for use in the field is manufactured. The average mixture is about as follows: 300 gallons crude carbolic acid; 200 pounds resin; 30 pounds caustic soda. The larvicide costs about 14 cents a gallon.

One part of this larvicide in eight thousand parts of water will kill the larvae in thirty minutes. As a mosquito larvicide it is used by spraying an aqueous emulsion (one part of the larvicide to five of water) over the surface and along the margins of pools and ponds or other mosquito breeding-places, so that the resulting dilution of the larvicide has a thin, milky opalescence representing approximately a dilution of 1:5,000.

2. (*a*) Yes. (*b*) We find no statement with regard to its effect on vegetable life. Probably in the strength in which it is used it would not materially affect vegetation. (*c*) Yes.

3. We find no references to copper sulphate in the works treating of mosquito destruction.

4. Efforts to destroy mosquitoes should be directed primarily to the drainage of their breeding-places; if practicable, the banks of streams should be cleared of vegetation. Small bodies of water likely to be infested should be covered with a thin layer of crude petroleum.

The following literature may be consulted for details with reference to the destruction of mosquitoes:

Le Prince, J. A.: Mosquito Destruction in the Tropics, The Journal, Dec. 26, 1908, p. 2203.
Darling, S. T.: Mosquito Larvicide—Disinfectant and Methods of Its Standardization, *Am. Jour. Pub. Health*, February, 1912; abstr., The Journal, April 13, 1912, p. 1148.
Mosquito Extermination, The Journal, editorial, June 8, 1912, p. 1758.
Gorgas, W. C.: A Few General Directions with Regard to Destroying Mosquitoes, Washington, Government Printing Office, 1904.
Goldberger, J.: Prevention and Destruction of Mosquitoes, *Pub. Health Rep.*, U. S. Public Health Service, July 17, 1908.
Howard, L. O.: Remedies and Prevention Against Mosquitoes, *Farmers' Bull.*, 444, U. S. Dept. of Agriculture.
Doane: Insects and Diseases, H. Holt, 34 West Thirty-Third Street, New York, $1.50.
Ross: Mosquito Brigades and How to Organize Them, Longmans, Greene & Co., 443 Fourth Avenue, New York, $0.90.
Ross: Prevention of Malaria, E. P. Dutton & Co., 31 West Twenty-Third Street, New York, $5.

EXCESSIVE LEUKODERMA IN MULATTO

To the Editor:—There has recently come to my notice an almost total loss of pigment in a mulatto that might be of interest if reported.

James R., mulatto, farm laborer, aged 49, health good, had scarlet fever at the age of 14 and was in bed eighteen months. The patient gradually recovered, with loss of coloring-matter in the skin over the entire body except the face and hands, which show splotches of white. The covered portion of the body is perfectly clear, and the veins show blue and clear through the skin.

1. What caused this perverted metabolic action, or was it desquamation?

2. Does desquamation following scarlet fever in negroes commonly cause such phenomena?

3. Could the coloring be restored by any method of treatment?

Robert C. Lowry, M.D., Shaw, Miss.

Answer.—This patient is evidently suffering from excessive leukoderma. This condition consists in complete loss of pigment in affected areas. It may become universal, but usually in the most excessive cases there are still some spots that contain pigment. The condition is not a very rare occurrence in the dark races. Its occurrence is the explanation of cases which are occasionally reported in the newspapers of negroes who are turning white. We know practically nothing of the internal influences that control pigment formation in the skin, and nothing, therefore, is known of the essential cause of this condition.

To answer specifically the questions asked by the correspondent:

1. The cause of this "perverted metabolic action" is not known. It is not desquamation.

2. Desquamation following scarlet fever in negroes does not cause this phenomenon.

3. There is no treatment that is effective in restoring the pigment in the whitened areas in this condition.

LIGATION FOR LOST POWER OF ERECTION

To the Editor:—Can you give me any data on the ligation of the dorsal vein of the penis for lost power of erection?

J. S. Gatlin, M.D., Laurel, Miss.

Answer.—The mechanism of erection of the penis is supposed to be as follows: There is a vasodilatation of the arteries in the penis, accompanied by shutting off of the return-flow of blood through the dorsal vein of the penis, by the contraction of the erector penis muscle. Naturally it was considered logical to treat men with impotence by an obstruction to, or even a ligation of, the dorsal vein of the penis. The operation some years ago was rather in vogue, but the ultimate results have not been favorable. In some cases after ligation of the dorsal vein, there is practically no change in the erectile power of the penis, the blood escaping from the penis through the superficial veins; in other patients the immediate result is a complete erection lasting from a few days to several months, usually accompanied by pain, which gradually subsides as the collateral circulation is established through the superficial veins, and then the patient is in the same condition as before.

Constriction of the root of the penis by a rubber ring or band just before intercourse will do all that ligation will do, and is not subject to the dangers of ligation. As this ring can be put on and taken off when desired, at present the operation of ligation of the dorsal vein of the penis for impotence should be performed rarely, if at all.

POISONING BY SULPHUR DIOXID FUMES

To the Editor:—1. Please inform me as to the proper procedure in case of poisoning by sulphur dioxid fumes.

2. What is the chemical change taking place in the blood?

3. Are there liable to be any after-effects that are permanent?

Howard A. Gallup, M.D., El Segundo, Cal.

Answer.—In your query you do not state whether you refer to acute or chronic poisoning. There is practically no treatment for sulphur dioxid poisoning, except thorough ventilation and removal from the source of the gas. In chronic cases arising among workmen who have to breathe these fumes, masks containing a wet sponge may be provided. In the use of sulphur dioxid for preservation of food or drink, the quantity should be greatly restricted. Mild alkalies, such as sodium bicarbonate, serve as antidotes.

2. These fumes tend to give an acid reaction to the blood. The hemoglobin is changed first through the loss of oxygen and then by decomposition to hematin, as with mineral acids. The respiratory tract has a catarrhal or even croupous aspect due to the action of the acids. The lungs are partly edematous. Sulphur dioxid is an active reducing agent, and in the processes becomes oxidized to form sulphuric acid.

3. The breathing of small quantities of sulphur dioxid does not seem to produce any serious effects. It is stated that from 1 to 3 per cent. can be respired without ill effects. Both men and animals may be habituated to its inhalation.

ARTICLES ON COMPOUND FRACTURES

To the Editor:—Please furnish me references to compound fractures and their treatment.

E. N. Roberts, M.D., Pocatello, Idaho.

Answer.—Following are recent articles on this subject:

Crawford, W. W.: Management of Complicated Compound Fractures, abstr., The Journal, June 1, 1912, p. 1715.
Blickensderfer, Charles H.: Treatment of Compound Fractures, abstr., The Journal, Oct. 26, 1912, p. 1563.
Beck, C.: Treatment of Compound Fractures, *Surg., Gynec. and Obst.*, August, 1911.
Berry, V.: Treatment of Compound Fractures and Lacerated Wounds, *Jour. Oklahoma State Med. Assn.*, December, 1912.
Adams, B. S.: Compound Fractures, *Journal-Lancet*, July 15, 1912.
Miller, S. R.: Treatment of Compound Fractures of Long Bones, *Jour. Tennessee State Med. Assn.*, September, 1912.
Barnes, B. F.: Operative Management of Compound Fractures, *Ohio State Med. Jour.*, February, 1913.

RATTLESNAKE VENOM IN EPILEPSY

To the Editor:—What is the status of rattlesnake venom as treatment for epilepsy? Is it harmless if used carefully? Does it offer enough chance of good to be worth a trial in idiopathic cases?

A. B. Smith, M.D., Elyria, Ohio.

Answer.—This correspondent, and many others, will find these questions answered in this department, March 15, 1913, and further in an editorial, March 29, 1913.

To the Editor:—With reference to your editorial, "The Rattlesnake-Venom Treatment of Epilepsy" (The Journal, March 29, 1913, p. 1001), it strikes one who has a mortal fear of these snakes that both you and Spangler miss the point in the case of the Texan who was cured by a bite. It was psychic. Instead of "being scared into fits," the fits were scared out of him.

M. B. Hutchins, M.D., Atlanta, Ga.

ASYLUM WANTED FOR ONE DEMENTED

To the Editor:—Can you tell me of some institution where I can place my father, who has had an acute attack of dementia? He has recovered, but still has enough vagaries to make it unpractical to let him go at large. He is 77 years of age, and expert advice is to the effect that he will be all right and give no indication of senile dementia so long as he is under control, but that he would probably relapse if uncontrolled. Most of the institutions charge $35 a week and up, and this is more than I can afford. Can you give me any advice?

B. R. N., M.D.

Answer.—We shall be glad to forward to Dr. B. R. N. advice as to available institutions which any of our readers may be kind enough to supply.

THE GOLDSCHMIDT ENDOSCOPE—TECHNIC OF THE WEIL TEST

To the Editor:—1. Kindly describe the method of using the Goldschmidt distending irrigating endoscope.

2. Please give the technic of the Weil test for syphilis with cobra venom. CHARLES IVOH, Atlanta, Ga.

ANSWER.—1. Goldschmidt's endoscope is a modification of Nitze's cystoscope, the principle involved in its use being the distention of the urethra by means of water. The lamp is placed beyond the visual field so that the lesion is illuminated from behind. The hydraulic pressure by causing dilatation of the canal amplifies the field of vision. Two instruments are used, one for the anterior and the other for the posterior urethra.

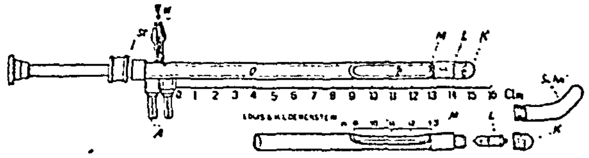

Fig. 1

Goldschmidt's endoscope. *W*, water intake; *A*, light connections; *O*, vision tube; *St*, water jacket; *M*, reflector; *L*, lamp; *K*, tip used to examine anterior urethra; *Schn*, tip for posterior urethra.

The instrument is passed into the urethra to the desired depth and then the canal is distended with a cold boric acid solution. Only a moderate pressure is needed to distend the anterior urethra. To distend the posterior urethra the solution container must be elevated about 6 feet above the patient's pelvis. The examination is made in exactly the same manner as when any one of the many urethroscopes and cystoscopes are used, the only difference in this case being that the tissues are viewed through water medium and not air medium. The patient is placed in the lithotomy position. The urethra is anesthetized with a 2 per cent. cocain or novocain solution. The tube is well lubricated and introduced slowly down to the bottom of the anterior canal. The obturator is then withdrawn, the solution allowed to flow into the tube and the light turned on. The observation is made as the tube is withdrawn slowly.

2. The technic of the Weil test for syphilis with cobra venom is given as follows by C. R. Bell (*Ill. Med. Jour.*, August, 1912): A small amount of blood is collected from a vein into a test-tube containing 5 c.c. of a 2 per cent. solution of sodium citrate in physiologic salt solution. This is allowed to stand in an ice-chest for about twenty-four hours. The cells are then washed four times with the salt solution, and a 4 per cent. suspension of the corpuscles in this physiologic salt solution is made. As the cobra venom solutions tend to deteriorate on standing, they must be made fresh. A small quantity of 0.05 per cent. solution in physiologic salt is made up from the dry venom, and from this the higher dilutions of 1:10,000, 1:20,000, 1:30,000, and 1:40,000 are made. One c.c. of the corpuscle suspension is added to 1 c.c. each of the four solutions of venom, and the test-tubes shaken and incubated at 37 C. (98.6 F.) for one hour; they are then shaken, placed in the ice-chest and allowed to remain over night, again thoroughly shaken after being taken out next day and the readings made one hour later. The cells which do not hemolyze in the 1:10,000 solution are considered strongly positive. Those which do not hemolyze or show incomplete hemolysis in the 1:20,000 solution are positive. Complete hemolysis in the 1:10,000 and 1:20,000 solutions are considered negative, and whether the reaction is positive or negative depends on these results. As a rule the positive or negative result of this test is definite and clear-cut and no difficulty is found in determining which reaction is present.

MUCH GRANULES

To the Editor:—1. What are the Much granules?

2. Are they merely débris of *distintegrated bacilli*, the envelope of which may have been destroyed or digested by the immunizing substances in the blood?

3. What is their significance in diagnosis, and how can they be demonstrated?

4. Who is Much?

A. U. DESJARDINS, M.D., Waterville, Maine.

ANSWER.—1. Much describes bodies having the form of granules and also rods, found in tuberculosis sputum, which do not stain by the ordinary processes for acid-fast bacilli. These granules and rods can be *demonstrated* by other means, and the sputum containing them gives rise to tuberculosis when injected into animals. There is a good reason therefore to believe that they are *forms of the tubercle bacilli.*

2. It is believed that the reason for the acid-fast character of the tubercle bacillus is that it is surrounded by a waxy envelope which takes up stains very slowly, but retains them in spite of the acid decolorizing agents. This envelope is believed to be absent *in the Much rods and granules*. As to the reason for its absence, the one stated by the correspondent is merely a hypothesis, and in the opinion of Much these rods and granules are in *reality more infective than the bacilli* which are acid-fast.

3. According to the opinion of Much and others, these granules and rods *indicate a tuberculous origin, and consequently* it is very important to determine whether or not they are present in cases suspected of tuberculosis. They are demonstrated by means of the *Gram stain; that is, they are Gram-positive*. Their tuberculous nature cannot be determined by this method of staining, since there are other organisms which are also Gram-positive.

4. Much is a physician in charge of the Eppendorf Hospital at Hamburg.

ARTICLES ON WOOD-ALCOHOL POISONING

To the Editor:—Please give references on deaths and accidents from wood-alcohol poisoning. I am chairman of the Committee on Public Health . . . and am much interested in means to lessen the numerous accidents that happen through ignorant people using wood *alcohol* as grain *alcohol, because* they do not know the poisonous character of the wood alcohol. J. W. L.

ANSWER.—See editorial, this issue, p. 1231. Following is a list of recent articles:

Natanson, A.: Blindness from Adulteration of Medicines with Wood Alcohol, *Deutsch. med. Wchnschr.*, Nov. 11, 1909; abstr., THE JOURNAL, Jan. 1, 1910, p. 86.
Koller, C.: A Remarkable Case of Methyl-Alcohol Poisoning, THE JOURNAL, June 4, 1910, p. 1866.
Wood, C. A., and Buller, F.: Poisoning by Wood Alcohol, THE JOURNAL, Oct. 1, 1904, p. 972; article was continued in four consecutive issues.
Lazarus, P.: Toxicity of Methyl Alcohol, *Deutsch. med. Wchnschr*, Feb. 22, 1912; *abstr., THE JOURNAL,* March 30, 1912, p. 981.
Warning Against Methyl Alcohol in External Application, Berlin Letter, THE JOURNAL, March 23, 1912, p. 871.
Wood Alcohol Prohibited in Austria in Foods and Drugs, Vienna Letter, THE JOURNAL, Feb. 10, 1912, p. 423.
Wood, C. A.: Death and Blindness from Methyl- or Wood-Alcohol Poisoning, THE JOURNAL, Nov. 30, 1912, p. 1962.
Methyl Alcohol as a Poison, THE JOURNAL, editorial, Nov. 30, 1912, p. 1974.
The Case of Methyl Alcohol, editorial, THE JOURNAL, Dec. 7, 1912, p. 2075.
Gruening, E.: Methyl-Alcohol Amblyopia, *Arch. Ophthal.*, July, 1910.
Ziegler, S. L.: Total Blindness from the Toxic Action of Wood Alcohol, with Recovery of Vision Under Electricity, *Pennsylvania Med. Jour.*, May, 1911.
Methyl-Alcohol Poisoning at Berlin Municipal Shelter, Foreign News, Jan. 13, 1912, p. 125; Berlin Letters in THE JOURNAL, Jan. 27 and Feb. 3, 1912.
Stadelmann, E.: The Poisonings at the Berlin Municipal Shelter, *Berl. klin. Wchnschr.*, Jan. 29, 1912; Abstr. THE JOURNAL, March 9, 1912, p. 740.
Epidemic of Methyl-Alcohol Poisoning at Berlin, *Med. Press and Circular*, Feb. 21, 1912.
Schlichting, R.: Fatal Methyl-Alcohol Poisoning, *Med. Klinik*, Aug. 11, 1912.
Harnack, E.: Acute Blindness from Methyl Alcohol, *München. med. Wchnschr*, Sept. 3, 1912.

THE PRACTICE OF MEDICINE IN MEXICO

To the Editor:—Please inform me of the law governing practice in Mexico, or tell me how to obtain such information.

WALTER G. HATHAWAY, M.D., Pooleville, Okla.

ANSWER.—Graduates of legally chartered medical colleges of the United States can secure licenses to practice medicine in any part of the republic of Mexico by having their diplomas registered with the proper authorities and proving their identity. In the state of Vera Cruz and in the city of Mexico an examination in the Spanish language must also be passed. The proper procedure is as follows:

1. The applicant must obtain from the secretary of the state wherein his diploma was issued a certificate stating that the medical college is legally chartered and that the diploma is legally issued and signed by the proper officials of the college.

2. This certificate from the secretary of state must be certified to and the signature of the secretary of state verified by the nearest Mexican consul, the fee for which is about $4.

3. The documents are then forwarded by the Mexican consul to the Mexican embassy at Washington whence they are sent to the secretary of state at Mexico City.

4. After the documents are approved by the minister of foreign affairs at Mexico City, they are returned to the applicant to be presented to the local Mexican authorities at the place where he wishes to practice. The local fees vary in different states but are said to be moderate. No examination is required except in Mexico City and in the state of Vera Cruz.

CARDS FOR CASE RECORDS

In connection with a correspondent's query which we published March 1, 1913, p. 689, we asked our readers to send us samples of cards and blanks they use for records of cases, accounts, etc. We wish to thank the large number who have responded with various sorts of record sheets, cards, blanks, and details as to their use. We hope later to make use of some of these in an article on the subject. Meanwhile if any other readers will send in two samples of any that they use, we shall appreciate the favor.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, MINNEAPOLIS, JUNE 17-20

Amer. Assn. of Genito-Urinary Surgeons, Washington, May 6-7.
Am. Assn. of Pathologists and Bacteriologists, Washington, May 6-8.
American Climatological Association, Washington, May 6-7.
American Dermatological Association, Washington, May 6-8.
American Gastro-Enterological Association, Washington, May 5-6.
American Gynecological Society, Washington, May 6-8.
American Laryngological Association, Washington, May 5-7.
American Laryn., Rhin. and Otol. Society, Washington, May 8-10.
American Neurological Association, Washington, May 5-7.
American Ophthalmological Society, Washington, May 6-7.
American Orthopedic Association, Washington, May 6-8.
American Otological Society, Washington, May 6-7.
American Pediatric Society, Washington, May 5-7.
American Society of Tropical Medicine, Washington, May 6-8.
American Surgical Association, Washington, May 6-8.
American Therapeutic Society, Washington, May 5-6.
Arizona Medical Association, Globe, May 20.
Arkansas Medical Society, Little Rock, May 20-23.
Association of American Physicians, Washington, May 6-7.
Congress Am. Phys. and Surg. of N. America, Washington, May 6-7.
Connecticut State Medical Society, Hartford, May 21-22.
Florida Medical Association, Miami, May 13-15.
Illinois State Medical Society, Peoria, May 20-22.
Iowa State Medical Society, Des Moines, May 7-9.
Kansas Medical Society, Topeka, May 7-8.
Louisiana State Medical Society, Baton Rouge, April 22-24.
Maryland Medical and Chirurgical Faculty, Baltimore, April 22-24.
Missouri State Medical Association, St. Louis, May 13-15.
Montana State Medical Association, Great Falls, May 14.
Nat. Assn. for Study and Prev. of Tuberculosis, Washington, May 8-9.
Nebraska State Medical Association, Omaha, May 13-15.
New Hampshire Medical Society, Concord, May 13.
New York State Medical Society, Rochester, April 29-May 1.
North Dakota State Medical Association, Minot, May 7-8.
Oklahoma State Medical Association, Enid, May 13-15.
South Dakota State Medical Association, Vermilion, May 27-29.
Texas State Medical Association, San Antonio, May 6-8.
West Virginia State Medical Association, Charleston, May 21-23.

TENNESSEE STATE MEDICAL ASSOCIATION

Eighteenth Annual Meeting, held at Nashville, April 8-10, 1913

The President, DR. O. DULANEY, Dyersburg, in the Chair

Multilocular Cystoma of the Lower Jaw

DR. P. H. FAUCETT, Columbia, reported a case of cystoma, which involved the lower jaw.

DISCUSSION

DR. JERE L. CROOK, Jackson: I operated in a similar case about a month ago, in which the tumor involved the upper jaw. The vast majority of tumors around the jaw eventually become malignant; even at the time these patients present themselves for operation the tumors are frequently malignant, and to remove a malignant growth successfully, it is necessary to do a thorough operation with as little mutilation as possible.

DR. J. W. BRANDAU, Clarksville: We ought to educate our patients to have these tumors of the jaw removed early, before they become malignant and before they become so large that mutilating operations are necessary.

Intracranial Hemorrhage

DR. ROBERT MANN, Memphis: All intracranial hemorrhagic phenomena are based on pressure and anemia, except the severe traumatism which may result from the rupturing of a high-tension blood-vessel in the delicate brain substance. The characteristic symptomatic manifestations in any form of intracranial hemorrhage will depend on the location and the amount. Small circumscribed hemorrhages can usually be located, except when situated over a slight area causing no manifest disturbance, or in the bulbar region, and causing symptoms of general pressure. Large circumscribed hemorrhages may cause distinct focal symptoms at first, and later exert pressure sufficient to produce anemia of the brain-stem with its characteristic slow pulse, high blood-pressure, irregular breathing, etc.; but by carefully comparing the extent of the disturbance on both sides of the body, the location of the clot can usually be ascertained after the pressure has become general. By gently elevating the temporal lobes the bloody cerebrospinal fluid may be evacuated. If bleeding continues, incision should be made. If, after operating in this manner on one side, the pressure symptoms are not relieved, a similar operation on the opposite side should be performed.

The after-treatment consists of the application of an ice-cap, and supportive and symptomatic procedures. The outcome of these cases is not always gratifying, but operative methods offer the best at our disposal.

DISCUSSION

DR. PAUL F. EVE, Nashville: There is a time when the surgeon should act promptly, and there is also a time when he should await results. We are able to locate a number of areas of the brain, and when hemorrhage results in any of these areas, with precision we can trephine and remove the clot and save the patient's life. Unfortunately, there are cases of hemorrhage in the cerebrum that we are unable to check, and such a case I had some months ago.

DR. MANN: There is danger in putting off operation too long. The intense pressure is apt to cause irreparable damage to the centers of respiration and circulation. They will have become so damaged that the shock of the operation is apt to terminate the life of the patient.

Treatment with Brown's Modification of Hodgen's Splint

DR. W. M. MCCABE and DR. JOSEPH GALLAGHER, Nashville, contributed a joint paper in which they reported eighteen cases treated, ten of which were fractures of the shaft, not compound. Of these ten there was no shortening in seven, or 70 per cent. In two there was shortening of ¼ inch, or 20 per cent. As one patient had but one limb, the amount of shortening could not be determined. There was one compound fracture with destruction of bone, with ¼ inch shortening. There were six cases of fracture of the neck treated, and of these one patient died. Four have shortening of ½ inch, and one shortening of ¼ inch. One patient with simple fracture of the shaft was discharged before the treatment was completed.

DISCUSSION

DR. DUNCAN EVE, JR., Nashville: As a rule, I use the Hodgen splint for the first one or two weeks, and then put the limb in a plaster cast, which is an ideal dressing, because after that time the patient can get up, take nourishment, read, etc.

DR. JERE L. CROOK, Jackson: I have used a combination of both the plaster cast and Buck's extension, and have been able to obtain satisfactory results in cases of compound fracture.

DR. J. N. COWDEN, Nashville: The idea of the Brown splint is to get traction; Buck's extension is a very unpleasant thing in the majority of cases. I believe after ten days you have obtained all the benefit you can from traction. By putting the limb in a neatly fitting plaster cast you get better immobilization and quicker results.

DR. J. A. CRISLER, Memphis: My assistant and I have been using a splint, the name of which I cannot recall. We put the patient on the table and apply plaster from the armpits down to the knee in a flexed position, so that the patient is actually put in the sitting position. This splint permits you to get many of these patients out of bed in ten hours, as soon as the plaster hardens. You can put the patient in a roller chair, one of the great conveniences of which is that the patient is able to go to stool in the normal way. Since July 1 we have had five of these cases in patients whose ages ranged from 62 to 74, one woman and four men, and they are all well and are walking normally.

Dr. R. E. Fort, Nashville: The splint referred to by Dr. Crisler is undoubtedly the Van Arsdale. I have used it many times in fracture of the femur in children with great comfort.

Bacteriology and Pathology of Cerebrospinal Meningitis

Dr. William Litterer, Nashville: From our experiments we were unable to grow on the various mediums the meningococci in dried sputum, pus or nasal secretion derived from meningitic patients, convalescents or healthy carriers. The meningococcus is of so short viability and is so fragile an organism outside its natural habitat (the human body), that it leads to the inference that direct transmission (droplet infection, etc.), is probably the only means of conveying the disease. In institutional epidemics the wisest procedure is the prompt isolation of all patients, the search for carriers and their detention, together with the general use of the spray. There is apparently no known means at our command in which the persistent carrier can with any degree of regularity be rendered free from the carrier state.

The After-Treatment of Surgical Cases

Dr. L. E. Burch, Nashville: There is no indication in the average surgical case to evacuate the bowels before the third or the fourth day, and this is best done by the use of an enema, injected low, using a small tube with a moderate amount of fluid. Many patients are very sensitive, and the ordinary long rectal tube causes intense pain. In addition to this the long tube will coil on itself, adding to the misery of the patient, and at the same time deceives the attendant into the belief that a high enema is being used. The daily use of purgatives is contra-indicated for the reason that it makes the patient quite uncomfortable until the bowels act, frequently producing nausea and vomiting. Kelly of Baltimore and Boldt of New York have been the principal advocates of early rising after section, and they have many leaders of the profession as followers. I have tried both methods and have never been able to convince myself of the advantages of early rising. In the first place, no wound is sufficiently strong at the end of five or seven days to permit walking about with safety. I grant you that we can suture them so that it may be done in many cases without accident, but at the same time we should remember that it takes a round cell twenty-one days to become a fibrous cell. I am firmly convinced that those cases in women who have had long-standing pelvic disease with unstable nervous systems can be restored to perfect health only by a prolonged rest after operation. The most difficult assertion to controvert is that early rising lessens the danger of thrombus, and I believe that this is true; but this may be accomplished by daily massage, without taking the other added risks.

DISCUSSION

Dr. John A. Witherspoon, Nashville: I have noticed a tendency on the part of surgeons to get their laparotomized patients up entirely too soon. There is nothing to be gained, in my judgment, by sending a patient out after an operation for appendicitis or a gastro-enterostomy before the conditions incident to the operation have been organized for safety.

Paroxysmal Tachycardia

Dr. F. J. Runyon, Clarksville, reported a case of paroxysmal tachycardia, and said: Ultimately it may be found that the attacks are precipitated by a change in the chemistry of the blood, thus causing a change in the condition of the nerves, probably the removal of some quieting substance.

DISCUSSION

Dr. John A. Witherspoon, Nashville: My experience has been that these paroxysmal attacks are usually neurotic. It is absolutely necessary to differentiate between the possibility of a neurosis and a chronic myocarditis. If you have an atheromatous change in the coronary arteries, you may have a local ischemia, a local point in which the heart muscle is deficiently supplied with blood and produces this condition of a dangerous character. In patients who die with tachycardia the trouble is usually associated with coronary atheroma.

Dr. W. B. St. John, Bristol: Sometimes these cases are the result of auto-intoxication, the toxin being selective in its action and affecting the vagus. I can recall seeing several such cases, and pregnancy would suggest the idea that that was the cause of it.

Dr. W. K. Sheddan, Williamsport: Were not these patients constipated in their habits and consumers of large quantities of proteins?

Dr. Runyon: One patient suffered constantly from diarrhea. She was on a very restricted diet, which consisted largely of beef-juice. Only one of the cases occurred during pregnancy.

President's Address: The Necessity for a Full Organization of the Medical Profession

Dr. O. Dulaney, Dyersburg: The contrast of medicine and its purposes at the time of the founding of the American Medical Association and at the present time is startling, and shows the height to which humanity can rise. Quite a few of its members are laboring and showing wonderful zeal in its success. You can occasionally hear some remark that the results claimed by the American Medical Association are exaggerated, but this is done solely from ignorance, for no intelligent man can make such a statement. To make the American Medical Association a success, let me again emphasize that the state and local societies are the essential factors for educating and training, and the place to get rid of the practical difficulties which so commonly occur among the physicians. A well-growing membership is an inspiration to any medical society. It is necessary for the officers to attend regularly to keep themselves in close touch with their work, and if they cannot do this, they should resign, for, as stated before, their failure to do their duty necessarily leads to the cessation of life in the society.

The hospital facilities throughout the South are rapidly increasing; laboratories of different kinds are increasing. Quite a good deal of research work has been done by Southern men in the past few years, and this alone should stimulate Southern interests as never before. We have problems that concern the South and the South alone, and some of the diseases can be better mastered by Southern men.

We should encourage our state boards of medical examiners in the great work that they are doing toward establishing reciprocity between the different states, for they certainly have done much toward elevating the standard of medicine.

The progress of medical science has kept pace with the progress of invention, and within recent years has startled the world with knowledge that seems superhuman. The physician who does not fully appreciate the tremendous responsibilities of his high calling is unmindful of the serious fact that he is identified with a body of men who are the peers of any class of men in the world. The physician is a benediction to mankind. The movement now must be to elevate still higher the rank and file of the society and seek men who will live up to its exalted standards. My wish is for our steady advancement in all good endeavors.

A Few of the Therapeutic Physical Agents

Dr. J. M. King, Nashville: The Roentgen ray may be applied for three purposes in cancerous conditions: (1) as a destructive and curative agent in superficial epitheliomas; (2) to retard the growth of inoperable cancers, either sarcoma or carcinoma; (3) to prevent the return of cancerous development on the surface, after excision. With reference to the treatment of the first group, I think I can say without fear of contradiction that practically all superficial epitheliomas without glandular involvement will yield to the Roentgen ray by the proper management, with the exception of those on the mucous membrane of the lip, glans penis, and mucous membrane of other areas. In the treatment of inoperable cases and recurrent cases of the breast, the Roentgen ray is better adapted than radium on account of the large surface usually involved. The Roentgen ray is better adapted to the immediate after-treatment of cancer of the breast than radium and also after removal of superficial sarcoma. I think every case of cancer of the breast should have a thorough after-treatment with the Roentgen ray. In conclusion and with reference only to the local application of these agents, it may be stated that all of them are eminently useful and practical, and that one may be substituted in a way for another, but that radium is practically displaced by the Roentgen ray and carbon dioxid snow. The Finsen light has taken the place of the Roentgen ray in lupus. The high-frequency spark is an excellent stimulant to chronic ulcers and to indolent acne vulgaris. Carbon dioxid snow takes the place of the electric needle in the removal of selected nevi and moles.

DISCUSSION

Dr. C. G. Savage, Nashville: In radium we have an agent that has a decided advantage over the Roentgen ray in malignancy of the mucous membrane. I have seen malignant troubles of the eyelid melt away rapidly under the application of radium. I recall the case of a young man who had a sarcoma of the nasopharynx. He was not expected to live after the removal of the sarcomatous mass, but after its removal radium was used at longer and shorter intervals with the result that the man is well to-day, seven years having elapsed since the operation.

Dr. E. T. Newell, Chattanooga: With regard to the high-frequency current in reducing blood-pressure, when we have a case of interstitial nephritis and cannot lower the blood-pressure, when the patient cannot sleep, and we feel as though we have to do something for him before he ruptures a blood-vessel, if we can possibly lower the blood-pressure 50 or 30 points with the high-frequency current, then it is certainly a valuable therapeutic agent. I have used the Roentgen ray extensively and have seen good results from it in cases of acne and epitheliomatous growths, combined with the use of the bacterins. I do not think there is anything better than the Roentgen ray in such cases.

Dr. King: It is the consensus of opinion of those who have used radium and the Roentgen ray that neither of these agents will take hold thoroughly of the mucous membrane. As regards radium doing more than the Roentgen ray, I will say that radium is more easily applied to the nose, to the rectum or to the nasopharynx, but that the Roentgen ray will accomplish everything radium does.

Submucous Resection of the Nasal Septum

Dr. Hilliard Wood, Nashville, presented a summary of eighty cases in which he had resorted to submucous resection. Of the patients, 56 were males and 24 females. The deviation was on the right side in 37, and on the left in 33, with no record in 10. The youngest patient was 9 years of age, the oldest 58, and the number of perforations was 3.

DISCUSSION

Dr. Richmond McKinney, Memphis: Most of the obstruction in these cases is cartilaginous. We have to take away the bony deviation. The essayist spoke of making a long primary incision. If you make a small incision, you must enlarge it afterward. Anesthesia is important. I prefer the Ballinger method.

Dr. W. J. Broyles, Johnson City: If there is any inequality in the nostrils, Nature tries to remedy it by enlarging the lower turbinate on that side or the middle turbinate. Nature attempts to have the two sides of the nostril about equal, and if there is any inequality, it will bring about trouble in the throat or middle ear.

Dr. J. McChesney Hogshead, Chattanooga: The anesthetic is one of the most important things in connection with this work. For the past two years I have been using novocain, and like it far better than cocain. The operation is not so hard if you get the patient anesthetized, and you can control hemorrhage.

Dr. C. B. Wylie, Chattanooga: The operation described is the most important operative procedure in intranasal surgery, and gives us better results than any measure we have heretofore tried.

Dr. J. H. Carter, Memphis: There is great danger attending cocain anesthesia. I would like to ask the author of the paper whether he has had or knows of any deaths following cocain anesthesia?

Dr. J. W. Moore, Nashville: The greatest objection raised to resection of the nasal septum for the relief of deflections has been that perforation frequently results, and it is therefore important how the initial incision is made, particularly the incision through the cartilage.

Dr. J. P. Crawford, Nashville: In the past three or four years I have been accustomed in this work of resection of the nasal septum to use a spray of quinin urea, and afterward use cocain, and have done so with satisfactory results.

Dr. Wood: I have had one death from cocain anesthesia, but it was not after a submucous resection operation.

Incision and Cure in Three Cases of Prolonged General Suppurative Peritonitis Pointing at the Umbilicus

Dr. W. D. Haggard, Nashville: All the cases of abdominal peritonitis which had undergone suppuration that I have observed have been of the localized type, and have all ended fatally in spite of irrigation and every other means. These cases, therefore, form a peculiarly distinct group and are not reported as a triumph of surgery, but simply to show what Nature can and will do. While operation was demanded and was curative in all, yet the real battle had been waged and won by the patient. All that remained was to open the pointing umbilicus in each case, as one would a gum-boil and allow the enormous quantity of pus to escape. They probably would have perforated themselves in a few days more and the same results would have been obtained.

DISCUSSION

Dr. J. Hugh Carter, Memphis: In one case I opened through the umbilicus under local anesthesia, and a great deal of seropurulent fluid escaped. After several days the patient seemed to be almost well and ready to go home. The next morning the patient got worse, and five or six days later an abscess formed over the appendix. At the second operation the appendix was found entirely destroyed. After the abscess was opened and drained, the patient recovered.

Dr. Robert Mann, Memphis: I was impressed with the importance of what Dr. Haggard said of not trying to do too much in peritoneal abscesses. A simple incision is generally all that will be indicated.

Officers Elected

The following officers were elected for the ensuing year: president, Dr. W. D. Haggard, Nashville; vice-presidents: For Middle Tennessee, Dr. E. M. Holmes, Readyville; for West Tennessee, Dr. Robert Mann, Memphis; for East Tennessee. Dr. H. P. Larimore, Chattanooga; secretary, Dr. Perry Bromberg, Nashville; delegate to American Medical Association: Dr. Jere L. Crook, Jackson; alternate, Dr. John B. Steele, Chattanooga. Place of next meeting, Memphis, April 14, 1914.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK

Meeting held March 24, 1913

The President, Dr. Brooks H. Wells, in the Chair

SYMPOSIUM ON CANCER

Problem of Cancer

Dr. Francis Carter Wood: The problem of cancer may be examined from several points of view: 1. From the purely clinical side, using human material entirely and disregarding as of little importance the results of the experimental method when applied to animals or human beings, the object of the quest being the discovery of a cure, without reference to the cause of origin of the various neoplasms. 2. As a phase of experimental pathology in which the human tumor is all-important and the general question of interest only in so far as it explains or amplifies the data obtained from the clinical and laboratory study of human tumors. 3. As a phase of general biology, in which instance the cancer of the mouse is as interesting as that of man. From whatever direction approached the fundamental problem is simple. It is only why one cell grows without observing the rules limiting tissue proliferation in adults, while other cells do not. Inversely, an equally important and difficult question is why the normal adult cells do not grow wild, but remain in fixed anatomic regions. The primary etiologic question is, therefore, why a cell grows.

A summary of the results of animal experimentation brings out the following facts, which may be regarded as proved: 1. Carcinoma in animals is not contagious. 2. Carcinoma in animals is not due to a parasite. 3. The morphology of carcinoma throughout a long series of propagations remains much the same. 4. In the transplantation of carcinoma from one animal to another the new tumor is produced entirely from the cells transplanted, and no transplantation will occur if the cells are crushed or their individuality is in any way destroyed. 5. Occasionally in the course of a transplantation of a carcinoma, a sarcomatous change may be induced in the connective-tissue elements of either the stroma of the tumor or the connective tissue of the animal in which the new tumor developed, so that a sarcoma is produced that may overgrow the carcinomatous portion, and the resulting tumor continue as a sarcoma. This phenomenon corresponds with the observation occasionally made in human beings, of a mixed carcinoma and sarcoma; but no proofs of the permanence of the carcinomatous elements have been obtained because of the impossibility of inoculation experiments in human beings. 6. The microscopic structure of a tumor is no certain guide as to its malignancy. With certain reservations this applies quite as well to human beings. Mechanical conditions seem to play just as important a part in the malignancy of a tumor as its purely morphologic cell structure. 7. There is a marked difference in susceptibility to tumor inoculation in animals of the same species under different conditions of stock, climate and nutrition. This shows how delicate is the balance between tumor and host, and gives a reasonable basis for hope that by the modification of conditions of living the incidence of carcinoma may be somewhat decreased. The rarity of malignant tumors in certain human races points also along this line. 8. From the study of immunity and therapeutics the conclusion has been reached that it is impossible to transfer tumors from one species to another. 9. Apparently no general immune reaction to carcinoma is produced in the fluids of the body; that is, when live cancer cells are introduced into an animal they do not act as do bacteria or foreign proteins by the production of antibodies, but healing if it occurs is due to local tissue resistance. 10. Finally, autolytic products, or the expressed juices or crushed or ground cells of tumors have no capacity to induce immunity to carcinoma in animals; on the contrary, such material may often produce an increased sensitiveness to tumor growth. Only growing uninjured cells have the capacity to induce immunity, and this immunizing power is inherent not only in the tumor cells but also in normal tissue cells, such as blood-corpuscles or the cells of the liver, kidney, skin or spleen from animals of the same species. While immunity to the inoculation of carcinoma can be obtained by some of the before-mentioned means, no cure can be effected after the graft has taken. Radium and the Roentgen ray are the only agents which regularly produce regression of an inoculated tumor, but unfortunately they have little influence on a carcinoma developing spontaneously in an animal.

The use of animals offers a convenient experimental material of reduced virulence by which we may try out various therapeutic measures under the best conditions; the animal, not having developed its own tumor, offers the optimum opportunity for positive therapeutic results. The lines of attack for the future are then for the biologist to learn as much as possible of the methods of influencing the growth of the normal cell, and he must show us why normal cells are incapable and tumor cells capable of indefinite propagation. The nature of the immunity following the inoculation of living cells must be examined with the greatest care. The serologist must be called in to settle the disputed question of serum reactions following the inoculation of living cells and the question of the presence or absence of immune substances in the blood. The possibility that the great group of human diseases including myeloma, sarcoma, lymphosarcoma, chloroma and leukemia may be due to an infectious agent, and the close relationship of these conditions to Hodgkin's disease, are extremely suggestive.

Surgical Pathology of Cancer

DR. THOMAS S. CULLEN, Baltimore: The importance of cooperation between the surgeon and the laboratory worker should be emphasized. I believe that in the future all surgeons will be trained laboratory men. This training will enable them to determine whether or not an operation is feasible for the complete relief of the patient. While many investigators are trying to discover the cause of cancer, there are many who are endeavoring to reach an early diagnosis. Cancer of the skin and lips must be differentiated from papillary growths. If the milky patches on the tongues of smokers are removed at once no further trouble will result; if one waits for some time without interference, carcinoma will develop. In cases of carcinoma of the lip, if the radical operation is performed, the chances of complete cure are good. In carcinoma of the stomach, surgical pathology does not help us much, because if we wait for the stomach washings of the characteristic lesions in order to make a diagnosis of carcinoma of the stomach, it is too late to save the patient. The only thing to do is to make an exploratory operation to learn whether or not we are dealing with cancer of the stomach, cancer of the duodenum, or ulcer of either of these organs. The surgeon as well as the pathologist is aided by a fluoroscopic examination, and this is destined to play an important rôle in making early diagnoses. If one has to deal with carcinoma of the intestine, signs of obstruction appear fairly early, and more and more cases are now apparently cured by early operation. The pathology here is quite characteristic. By means of the proctoscope we are now able to detect cancer of the rectum and lower sigmoid at an early stage.

Two or three years ago I diagnosed what I thought was a malignant growth of the ovary, but which I could not understand. The histologic examination of the stroma showed carcinomatous tissue, while other parts of the organ showed sarcoma. There seemed to be two growths present in the ovary independent of each other. This patient was followed up carefully, and died in one year; the local return was sarcoma. Cancer of the breast in the early stage may be beneath the skin, and there may be no adhesions or puckering; but as the disease advances there is the characteristic puckering of the skin. If one cuts into the growth and takes out a local area, the removed portion can be recognized immediately; if it is pronounced cancerous, then the complete radical operation should be done with the removal of the axillary lymph-nodes.

When it comes to the surgical pathology of the uterus, the pathologist acts as the supreme court and decides whether or not cancer exists; and it depends on him whether the patient is subjected to a dangerous operation or not. Here, again, I take advantage of the opportunity to point out the close connection between the laboratory worker and the surgeon—between the pathologic and the clinical side—and it is very fortunate if the two are combined in one man.

General Principles of the Surgical Treatment of Cancer

DR. JOHN A. HARTWELL, New York: The hope that is aroused by the many experimental studies on cancer must not obscure the fact that at present the only treatment of cancer which is effective is an operative procedure. The fact of prime importance is that in its incipiency cancer is a local lesion. In the early stages the growth is entirely by continuity. Hence there must be a time in its life history when every cancer is amenable to complete eradication, unless it is so placed that it is inaccessible technically. Sooner or later the disease ceases to be a localized lesion, and when this stage is reached its complete eradication is impossible. This statement ignores the rare instances in which the cancer cells seem to find a host sufficiently resistant to destroy them. Fortunately, cancer attacks with greatest frequency the stomach, the uterus, the rectum, the large and small intestine, the female breast, and the structures in and around the mouth, in about the order named as far as frequency is concerned. It is comparatively rare as a primary lesion in the pancreas, the liver, the brain and the lung.

Four causes are responsible for the enormous and apparently increasing death-rate from cancer: 1. Carelessness and ignorance of the medical profession. 2. Carelessness and ignorance of the laity. 3. The inherent difficulties in diagnosing many cancers in the early stage, even by the greatest care of the best-trained observer. 4. The fact that surgery has yet much to learn concerning the overcoming of difficulties which surround the complete eradication of disease.

The importance of the first two causes is illustrated by the report of the Pennsylvania Cancer Commission, which shows that throughout the state superficial cancer has been apparent on an average of eighteen months before the case came to a surgeon. Eleven months has elapsed from the time a physician had been consulted until the date of the operation. In deep cancers this time was one year. About one case in thirty of breast-cancer was not even examined by the first physician who saw the case; in one case in six, salves, ointments, etc., were prescribed with advice to temporize. Only 68 per cent. of superficial cancers and 48 per cent. of deep-seated cancers are operable when they come to the surgeon. Records from our large city hospitals show that this community is equally open to criticism. Records in one hospital show that in a series of fifty-four cases of cancer of the pylorus only three were really proper cases for the application of the only curative treatment for cancer which is at present known, and in these cases the diagnosis was in doubt. There is no justification for temporizing with a disease that inevitably proves fatal if left alone.

Every patient who presents symptoms which make the diagnosis of a deep-seated cancer seriously to be considered is entitled to and should have urged on him the exploratory operation. A review of the statistical results of the operation of gastrectomy make it little less than criminal that in a city like New York only one patient out of thirty, admitted to a general hospital, reaches the surgeon's care early enough to allow of his being permanently helped. The causes at work are difficulties in diagnosis and carelessness. The campaign inaugurated by the recent surgical congress for education on the subject of cancer is a step in the right direction. This campaign must be energetic and continuous, and must primarily be directed toward an improved condition of affairs in our own ranks. Every diagnostic aid for the early recognition of cancer, including the exploratory operation, if need be, should be employed.

A second principle rests on the fact that certain lesions may be transformed from a benign to a malignant character. The Pennsylvania Commission found that 39 per cent. of superficial and 40 per cent. of deep-seated cancers were the result of such a transformation. If the physician will learn this pathologic lesson and explain to the patient that surgery in a much more dreadful form is the outcome of the waiting policy, I venture to affirm that a much larger number than at present will elect to have the early operation. In many instances a precancerous condition exists, and this term with a definite knowledge of its significance should become one in general daily use by the clinician. The term "precancerous" is used because cancer in its general clinical meaning is not yet present, but will inevitably follow if nothing is done to stop it.

The operative principles which must guide the surgeon in the management of cancer are based on the fact that growth from the original focus of the tumor follows definite lines in individual localities, and on the fact that cancer-cells have an inherent vitality which makes them capable of growth when planted in favorable environment. Experience has taught what lines in general will be taken, but there is a great dearth of knowledge as to which type of tumor is most active in rapid and wide dissemination. The result is that often a needlessly mutilating operation is done, or an insufficient removal is followed by a rapid recurrence. Only a very careful correlation of the clinical history, the operative procedure, the exact morphology of the tumor, and the ultimate outcome of the individual case will ever solve this problem.

After a decision has been made in the individual case as to what must be the extent of the operation, it is imperative that the removal begin at the most distant points, and proceed in an orderly manner toward the most advanced points, always avoiding any exposure of parts already involved. Rough handling must be guarded against to prevent the mechanical extension of cells to new fields, and care must be exercised in making examinations, removing fragments for microscopic examination, etc. Cancer-cells are active entities with great potentialities for evil, and should be treated in such a way as to limit their extent when once they have found a place in the human body.

Problem in Local Recurrent Breast-Cancer

Dr. C. W. Strobell, Rutland, Vt.: Recurrence is of far greater concern to the surgeon than primary extirpation. Whatever has been accomplished in the direction of cure and the prevention of recurrence cannot be credited to either the accuracy or the utility of Cohnheim's theory of the embryonic origin of tumors, as applied to malignant disease. This theory must be discarded as far as the origin of malignant tumors is concerned. Malignant tumors recur and metastasize, and these attributes are characteristic of pathogenic infection. The rapidity of a recurrence depends on many conditions, none of which is definite or absolute, so that in even the most carefully selected cases operated on under ideal conditions there may be primary recurrence within two or three months, while again recurrence may be surprisingly delayed, as notably in scirrhus conditions.

Recurrence following radical extirpation is almost universally regarded as an external evidence of internal metastases. It should not be so regarded. It simply means the perceptible evidence of renewed activity of surviving specific pathologic organisms. If internal metastasis to an abdominal or pelvic viscus existed at the time of the recurrence, it so existed independently of the latter. Metastasis dating from a local recurrence is only by continuity through the chest wall to the pleura and lung, and thence to the general system. Whenever metastasis to any part of the abdominal or pelvic viscera manifests itself prior to or coincident with the recurrence, it is certain that the primary operation was done too late. This cannot be known at the time of the operation.

To-day, for the first time in medical history, there is apparently something tangible on which to hang our hopes. This is mainly the obvious fact of infection by a specific pathogenic organism, and the apparently corroborative results of the new chemical surgery. This chemical surgery is based on the previously assumed facts and on scientific principles, and it questions altogether the expediency or safety of extirpation by excision through presumably healthy adjacent tissue. The foregoing facts should be accentuated in connection with the speedy and most radical secondary operation on the earliest indication of recurrence. When unaccompanied by internal metastasis, recurrence is a curable condition.

How We May Reduce the Mortality from Cancer of the Uterus

This paper, by Dr. Herman J. Boldt, was published in full in The Journal, March 29, 1913, p. 968.

Resection of the Middle Portion of the Esophagus for Carcinoma

Dr. Franz J. A. Torek: This is the first case in which this operation has been done successfully. The patient was a man aged 67, with a tumor just below the arch of the aorta. He was operated on, March 14, 1913. The incision was carried through the whole length of the left seventh intercostal space, from the posterior end of which the incision was continued upward, cutting through the seventh, sixth and fourth ribs at their angles. This is simpler and gives a better exposure than any of the other methods of access. To reach the parts behind the arch of the aorta a number of its thoracic branches were divided and the aorta was lifted forward. To do away with the danger of leakage from the upper stump of the esophagus, which has been the cause of many deaths, I dissected the whole esophagus free and brought it out through an incision at the anterior border of the left sternocleidomastoid muscle. The patient made a satisfactory recovery. Success in these cases depends largely on early diagnosis.

Medical Economics

This Department Embodies the Subjects of Post-Graduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

PUBLIC HEALTH PAMPHLETS

The amount of popular literature on health topics is constantly increasing in quantity and improving in character. Publicity for educational purposes has become a recognized qualification for the successful health officer, whether state or municipal. It is becoming recognized more and more that the principal causes of disease are based on social conditions, and that the prevention of disease is therefore a social rather than a scientific or medical problem. Science must, of course, discover the specific cause of each disease, its life-history and growth, its method of transmission and its manner of entrance into the human body, and the most effective means of preventing the disease; but after the cause, the method of transmission and the manner of protection have been fully and accurately worked out, the disease ceases to be a problem from a scientific point of view. Though it is then a solved puzzle, the knowledge which has thus been gained still remains for organized society to apply; and the application of it is the most difficult part. As it is beyond the control of the medical profession, it consequently becomes a public duty. The performance of a public duty by the average citizen requires an overwhelming sense of obligation, and this in turn requires knowledge and understanding. The result is that the education of the public regarding preventable diseases is no longer a debatable question. It is absolutely necessary for further progress.

These general principles are at once recognized as soon as we apply them specifically. In tuberculosis, for instance, we know all about the specific cause of the disease, its life-history, its manner of entrance into the body, and the means of preventing transmission from one person to another; but the application of these methods of prevention involves such complex social problems as nutrition, environment, sanitation of houses, factories, workshops and schoolrooms, regulation of hours of labor, compensation, etc. In the same way we know all about the specific organism of typhoid; where it comes from, how it gets into the human body and how typhoid infection can be prevented; but the actual prevention involves inspection and control of water-supply and milk-supply, the extermination of flies, the proper disposal of sewage, and other complex social problems. In order to secure action on these questions, practically all of which are matters of public policy determined ultimately by the people, it is necessary to show the relation between insanitary factories or tenements and consumption, or between flies and typhoid fever. This change of attitude on the part of physicians, not only toward disease itself but also toward the public's relation to disease and its prevention, is of the utmost significance and cannot fail to exert profound influence on the social responsibilities of the medical profession in the future.

The enormous quantities of pamphlets now being printed and distributed both by state and local health departments, and by philanthropic organizations, is the best evidence of the public interest on these subjects. A number of pamphlets recently received about the same time from widely separated sources all prove, on examination, to be prepared and distributed for the same purpose, namely, that of instructing the public as to disease and its prevention.

Five numbers of the *Bulletin* of the State Board of Health of Alabama (the Medical Association of the State of Alabama), carry information on a variety of topics. The first issue of the *Bulletin*, dated October, 1912, contains the semi-annual report of the State Board on births, deaths, marriages and divorces. It opens with the following significant statements: "The first duty of the state is to conserve the health of its citizens. The superstructure of preventive medicine is built on vital statistics."

After giving the vital record of the state by counties, the *Bulletin* gives seven reasons why births and deaths should be registered.

The second or November number contains additional data and the story of a child that lost its inheritance through failure on the part of the doctor to register its birth. Other numbers of the *Bulletin* contain items on fresh air, cerebrospinal meningitis, press notices for newspapers, etc. A special bulletin on the house-fly appeared in January. This is a little eight-page pamphlet, containing a readable and comprehensive story about flies and why they should be destroyed.

The United States Public Health Service in Reprint 115 has issued a four-page article by Dr. Charles Wardell Stiles of the Hygienic Laboratory on "Hospital Relief for Rural Districts," discussing the value of hospital trains in furnishing needed medical and surgical aid for those living at a distance from properly equipped hospitals. The lack of proper hospital accommodations in the rural districts is one of the crying evils of the day. Whether the solution of this problem will be found in hospital trains, as suggested by Dr. Stiles, or in properly equipped county hospitals to take the place of the present disgraceful system of county institutions is an interesting speculation.

The Virginia State Board of Health can always be relied on to present something that is novel, timely and interesting. The *Virginia Health Bulletin* for March, contains a catechism on public health for use in the elementary grades of the public and private schools of Virginia. The catechism is divided into three parts: 1. The Germ Theory of Disease. 2. Specific Germ Diseases. 3. General Sanitation. In six pages of questions and answers in simple words is condensed a large amount of valuable information which every schoolchild should have.

Senate Document 1000, printed at the request of Senator Owen, contains the mortality statistics of Pennsylvania, as given in a letter from H. L. Hosford, secretary of the Department of Health of Pennsylvania, and also an outline of the organization of the Pennsylvania State Department of Health. Under the title "Buying Human Life in Pennsylvania," Mr. Hosford shows that in seven years the death-rate in Pennsylvania has been lowered from 16 per thousand to 14 per 1,000, "which means that had the death-rate of 1906 prevailed in 1912, 15,938 people would have died in Pennsylvania this year who are now growling about the high cost of living," and that if the ratio of 1906 had been maintained during the entire seven years, there would have been 51,000 more deaths in the state than have occurred; as at the lowest calculation there are ten cases of illness to every death, 510,000 cases of sickness have been prevented. The work of the State Department of Health has prevented 17,000 people from dying in Pennsylvania from communicable diseases, which means that 170,000 cases of illness with their accompanying economic losses have been prevented. Mr. Hosford naturally concludes that the people of Pennsylvania will regard the money spent for this purpose as a good investment. The pamphlet contains facts which are interesting. In 1911, 35,016 children died under 2 years of age. Of these 28,377 were less than a year old. The majority of these babies died from disorders of nutrition. One-sixth, or nearly 6,000 babies, died through neglect of proper personal hygiene. This pamphlet constitutes one of the strongest possible arguments for proper state health organization.

Bulletin R of the Department of Recreation of the Russell Sage Foundation contains an outline of its recreation department, a list of pamphlets on general recreation, and a list of the education material which this department lends to those interested. This includes a large number of lantern-slides on school playgrounds, park and municipal playgrounds, athletic fields, swimming-pools, recreation centers, gardens, and practically every side of the recreation question.

Among life insurance companies doing conservation work, the Postal Life is conspicuous for the character of its educational material. Health Bulletin 10, issued by the company's Policyholders' Health Bureau, contains an interesting conversation between a cold-blooded scientist and a visitor from Mars on the cost of modern living and the low cost of moderate living. A short article on "How to Avoid Spring Tonics" endeavors to point out to the policy-holder the absurdity of old ideas of sarsaparilla and other "spring-cleaning medicines" which the average citizen has long considered necessary to cool or thin his blood, which was supposed to become both thick and hot during the winter. At the bottom of the pamphlet is printed in red ink the following suggestions to policy-holders: "Write your senator to vote for the Owen bill for a consolidation of federal health-activities. This bill will not interfere with personal liberty, but will simply bring about a more rapid dissemination of information regarding disease-prevention." Evidently the managers of the Postal Life Insurance Company and of all the other large insurance companies of the country, like the hard-headed business men that they are, are in sympathy with the diabolical scheme to deliver the country over to the "Doctors' Trust." Or, on the other hand, it is barely possible that the big financial men in this country have discernment enough to see that preventable disease is a waste and a dead loss, and that coordination of public-health activities is the only way by which such a loss can be prevented. It is daily becoming more and more apparent that disease is due to inefficient management and poor business sense, and that the good manager will seek to abolish it.

The pamphlets mentioned are only a few of those which are constantly being sent out by organizations other than the American Medical Association. The student of public-health questions cannot disregard the effectiveness of this method of education, while the results from such wide-spread efforts at enlightenment cannot fail to be beneficial.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Arkansas: Regular, Little Rock, May 13-14. Sec., Dr. F. T. Murphy, Brinkley; Eclectic, Little Rock, May 13. Sec., Dr. C. E. Laws, Fort Smith.

Florida: Jacksonville, May 12-13. Sec., Dr. J. D. Fernandez.

Georgia: Regular, State Capitol, Atlanta, May 8-10. Sec., Dr. C. T. Nolan, Marietta; Homeopathic, Atlanta, May 8. Sec., Dr. R. E. Hinman, 106½ Whiteball Street.

Illinois: Armory Battery B, Chicago, April 29-May 1. Acting Secretary, Amos Sawyer, Springfield.

Louisiana: Homeopathic, 702 Macheca Bldg., New Orleans, May 5. Sec., Dr. Edward Harper.

Massachusetts: State House, Boston. May 13-15. Sec., Dr. Walter P. Bowers, Room 159, State House.

Michigan: Y. M. C. A. Bldg., Detroit, May 22-24. Sec., Dr. B. D. Harison, 504 Washington Arcade.

Nebraska: Lincoln, May 28-29. Sec., Dr. C. P. Fall, Beatrice.

Nevada: Carson City, May 5. Sec., Dr. S. L. Lee.

Vermont February Report

Dr. W. Scott Nay, secretary of the Vermont State Board of Medical Registration, reports the special examination held at Montpelier, Feb. 18-20, 1913. The number of subjects examined in was 12; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 3, of whom 1 passed and 2 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
George Washington University	(1911)	87.1
FAILED		
Columbia University, College of Physicians and Surgeons	(1904)	69.8
University of Naples, Italy	(1904)	62.3

Connecticut March Report

Dr. Charles A. Tuttle, secretary of the Connecticut Medical Examining Board, reports the written examination held at New Haven, March 11-12, 1913. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 22, of whom 16 passed and 6 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Yale Medical School	(1911)	80.8;
	(1912)	79.2, 79.7, 79.9, 81.1, 82, 83.7, 88.4.
Georgetown University	(1912)	78.5
Johns Hopkins University	(1911)	76.8;
	(1912)	77.8
College of Physicians and Surgeons, Baltimore	(1912)	78.2
University and Bellevue Hospital Medical College	(1909)	78.7
Columbia University College of Physicians and Surgeons	(1905)	83.2
Woman's Medical College of Pennsylvania	(1912)	75.9
Jefferson Medical College	(1912)	80.2
FAILED		
Georgetown University	(1912)	74.6
University of Maryland	(1912)	68.8
Maryland Medical College	(1911)	65.5
College of Physicians and Surgeons, Baltimore	(1911)	69.4
College of Physicians and Surgeons, Boston	(1908)	61.1
University of Vermont	(1912)	67.2

Book Notices

The Diseases of the Skin. By Willmott Evans, M.D., B.S., F.R.C.S., Surgeon to the Royal Free Hospital, London. London Medical Publications. Cloth. Price, $3.75. Pp. 375, with 32 illustrations. New York: Oxford University Press, 1912.

While this volume contains 375 pages, large octavo, it is really a small book, for the type is large, the spacing wide, and the paragraphs short. It is a pleasing book to the eye, but after saying this we sadly confess that we find little else to commend. The work is a conventional short handbook of skin diseases, so sketchy as to give no satisfactory consideration of anything, and without personal color. There are many surprising statements to be found, as for example: water is readily absorbed by the skin; urticaria is most commonly produced by fish; the diagnosis of xanthoma diabeticorum from xanthoma simplex depends mainly on the discovery of glycosuria; excision is the best treatment for large pigmented nevi and elevated vascular nevi.

As evidence of the author's looseness of style (and thought?), the definitions are illustrative: Erythema multiforme is "an acute inflammatory disease of the skin with erythematous and other lesions"; syphilis is "a chronic, specific, contagious disease, with numerous forms of eruptions." If such meaningless definitions are to take up space at the head of every chapter, it would be better to lump the whole thing and say in the preface or in a foot-note at the beginning of the book that all skin diseases are "rashes" and let it go at that. A few of the illustrations are good; most of them are from photographs out of focus; some are reproductions of old illustrations of Erasmus Wilson's, and remind one of the old woodcuts of one's early childhood. The chapter on diseases of the nails consists of twenty-two lines and contains 209 words.

Pathology and Treatment of Diseases of Women. Fourth Edition. Rewritten by A. Martin, Professor und Direktor der Universitäts-Frauenklinik in Greifswald, and Ph. Jung, Professor und Oberarzt der Universitäts-Frauenklinik in Greifswald. Only Authorized English Translation. Written and Edited by Henry Schmitz, M.D., Professor of Gynecology, Chicago College of Medicine and Surgery. Cloth. Price, $5. Pp. 475, with 187 illustrations. New York: Rebman Company, 1912.

This volume represents the fourth German edition of Martin and Jung's widely known "Pathologie und Therapie der Frauenkrankheiten," which has stood for some years as an example of clearness and conciseness, remarkably free from discussion of theories and from repetition. While not comprehensive in scope, being limited to consideration of pathology and treatment, it fulfils its purpose as a practical work for the practitioner and student. Without going into elaborate exposition, the authors follow a logical classification of the subject-matter. Pathologic histology of each of the pelvic viscera is reviewed, and illustrations from original slides containing sections of typical lesions are profuse. This forms one of the most valuable features of the book. In this connection it is interesting to note that dysmenorrhea membranosa is classed as a form of endometritis, and that the old classification of endometritis is followed. The various steps of the different operations are concisely and clearly described, but not so well illustrated as we have come to expect. Curettage is represented as an operation *per se;* the Hegar-Freund technic is followed in plastic work on the perineum, and both the abdominal and the vaginal radical extirpation for uterine carcinoma are described in detail. The final chapters on diseases of the pelvic connective tissue and of the pelvic peritoneum show most extensive revision. The translator has been fortunate for the most part in his rendition from the orginal. He has been content to translate Martin and Jung, and for this those who wish to read the work of these foreign authors in English should be thankful.

ARBEITEN AUS DEM KAISERLICHEN GESUNDHEITSAMTE, Volume 41. Denkschrift über die seit dem Jahre 1903 unter Mitwirkung des Reichs erfolgte systematische Typhusbekämpfung im südwesten Deutschlands. Paper. Price, 26.40 marks. Pp. 604, with 26 illustrations. Berlin: Julius Springer, 1912.

In this volume are recorded the results, scientific and practical, of the systematic efforts to stamp out typhoid fever that have been conducted in southwestern Germany since 1903. During the time since then numerous special typhoid stations have been established, and an immense amount of valuable work has been conducted by the bacteriologists and epidemiologists attached to them. We owe to this undertaking the perfection of the bacteriologic diagnosis of typhoid, the discovery of the typhoid carrier, the rôle of the bile in maintaining the carrier state, and a fuller recognition than before of the importance of the patient as the source of infection and as a means of spreading it. The principles underlying this, the most thorough and advanced effort to control typhoid fever, were formulated by Robert Koch, the central idea being that the most dangerous source of typhoid is the infected person. There are in this volume twenty or more extended articles dealing with the various phases of this organized struggle against typhoid, all written by investigators whose names are familiar from the results they have accomplished, and the outcome is an invaluable source of information to all who are directly concerned with the stamping out of typhoid fever.

FORTPFLANZUNG: VERERBUNG: RASSENHYGIENE. Illustrierter Führer durch die Gruppe Rassenhygiene der Internationalen Hygiene-Ausstellung 1911 in Dresden. Herausgegeben von Prof. Dr. Max von Gruber und Dr. Ernst Rüdin. Second Edition. Paper. Price, 7 marks. Pp. 191, with 230 illustrations. Munich: Lehmanns, 1911.

At the Dresden hygiene exposition the facts concerning propagation, heredity and race hygiene were collected and so classified as to be of great value in the study of these subjects, which are now attracting so much attention among scientific students and students of social and economic problems. Over sixty teachers in the schools of Europe and America cooperated in the collection of specimens, illustrations and books. This profusely illustrated catalogue, prepared by Gruber and Rüdin, gives a clear idea of all this material, and is an index to the present state of knowledge in this field. The data are presented in chapters on propagation, variation, selection and mutation, inheritance of acquired characteristics, mendelian law, inheritance in the human race, degeneration, race hygiene and neomalthusianism.

ELÉMENTS DE SÉMÉIOLOGIE ET CLINIQUE MENTALES. Par le Dr. Ph. Chaslin, Médecin de la Salpêtrière. Cloth. Price, 18 francs. Pp. 956. Paris: Asselin et Houzeau, Place de l'Ecole-de-Médecine, 1912.

The author takes up the semeiology of mental diseases in a manner best calculated to imprint vividly the principles of the entire subject on the student's mind. Each symptom or symptom-complex is illustrated by an actual case citation. By means of over 350 case histories, described in simple language, psychiatry is taught as the clinician does when he demonstrates his patients in the clinical arena. So vividly are the cases pictured that he who reads may diagnose.

Paying little or no heed to the newer classifications, the author has adopted one of his own, which best suits his clinical needs and enables him to paint life-like portraits of disease. Like Charcot's "Leçons du mardi" in neurology, this book consists of a series of lessons on mental diseases from the clinical side only. In the first section of about 290 pages individual signs and syndromes are discussed. The second section of 557 pages constitutes the main portion of the volume and treats of each individual disease as a whole, profusely illustrated by case records. The third and fourth sections are devoted to the examination of patients and their treatment, the latter of which may as well have been omitted, so meagerly has it been treated. The last section deals with the subject of commitment—of no interest to Americons. While this book is primarily intended for beginners, the advanced student and teacher of psychiatry will find in it much of value. It is a valuable addition to the leading modern text-books on mental diseases.

TEXT-BOOK OF GENERAL AND SPECIAL PATHOLOGY FOR STUDENTS AND PRACTITIONERS. By Henry T. Brooks, M.D., Consulting Pathologist to Beth-Israel, New York City. Cloth. Price, $6 net. Pp. 1127, with 525 illustrations. Philadelphia: F. A. Davis Company, 1912.

This book seems to be a combination of translation, compilation and a minimum of original work. The work was originally started as a translation of Langerhans but was expanded by including reference to the extensive developments in the field of pathology since his death. The chapters on immunity and the eye are by collaborators. The numerous illustrations are practically all copied from Langerhans or other published works, mostly German; many are in color. The subject of pathology is such a large one that an attempt to treat it in one ordinary-sized volume results in most instances in a mere enumeration of conditions with little explanation, and could not perhaps result in a work that would greatly enlighten either the student or the general practitioner, for whom the work is intended, on the subject of general or special pathology. The last statement is not so much a criticism of this particular book as it is of any attempt to treat such an immense subject in a few pages.

GENITO-URINARY DISEASES AND SYPHILIS. Henry H. Morton, M.D., Clinical Professor of Genito-Urinary Diseases in the Long Island College Hospital. Third Edition. Cloth. Price, $5 net. Pp. 605, with 275 illustrations. Philadelphia: F. A. Davis Co., 1912.

In this edition the book has been revised completely, and many chapters have been rewritten to conform to present-day knowledge on such subjects as the treatment of bladder tumors by the high-frequency current and extensive resection. The author has kept pace with the advances made in genito-urinary surgery in the past five years, and besides recording these, he includes his personal observations. The book is well written and contains a wealth of information in comparatively few words. The many heads and subheads make easily accessible any portion of the text, and the latter is, as it should be, a clear and concise, but none the less complete presentation of the best in genito-urinary surgery. The illustrations really illustrate the text, which is more than can be said of most pictures. We wish to commend especially the diagrammatic drawings showing the anatomy of the prostate and the details of the technic of prostatectomy.

AN ATLAS OF THE DIFFERENTIAL DIAGNOSIS OF THE DISEASES OF THE NERVOUS SYSTEM By Henry Hun, M.D., Professor of the Diseases of the Nervous System in the Albany Medical College. Cloth. Price, $4. Pp. 290, with analytical and semeiologic neurologic charts. New York: The Southworth Company, 1913.

While we do not agree with the author of this atlas that the perusal of it will give to the student or physician a key by which, in a comparatively easy manner, from one or more important symptoms he can arrive at a diagnosis, we believe that the careful study of it will contribute largely to this result. It is an excellent book, and in some respects quite unique. The differential diagnosis tables are complete and up to date. Especially praiseworthy are those on insanity, ataxia and coma. Cerebral and spinal localization have been adequately presented. On the whole, this book is a valuable addition to neurologic literature and will be of immense assistance to those preparing for examinations.

Clinical Pathology of Syphilis and Parasyphilis and Its Value for Diagnosis and Controlling Treatment. Hugh Wansey Bayly, M.A., M.R.C.S., L.R.C.P., Pathologist to the London Lock Hospitals. Cloth. Price, $2.25 net. Pp. 191, with Illustrations. New York: William Wood & Co., 1912.

This is a little book, less than an inch thick, with pages about 4½ by 7 inches, printed in large type, and with a bright red cloth binding; altogether it suggests in its appearance an unassuming little volume of short stories or something of that sort. We emphasize the physical characters of the volume because in their modesty they are so at variance with the worth of the contents, which comprise the most useful statement of the newer facts of syphilis that has yet appeared. The whole of the newer syphilis is presented and presented well. The author has the happy faculty of giving essentials without overloading them with accessories and bibliographic embellishments. The book is recommended to every one who is in need of knowledge of its subject—and that includes all of us.

Text-Book of Ophthalmology. In the Form of Clinical Lectures. By Dr. Paul Roemer, Professor of Ophthalmology at Greifswald. Translated by Dr. Matthias Lanckton Foster. Volumes 2 and 3. Cloth. Price, each $2.50 net. Pp. 896, with 199 Illustrations; also to be bound in one volume, cloth, price $7.50. New York: Rebman Company, 1913.

We reviewed the first volume of Roemer's work a year ago. Now that the second and third volumes have appeared, we find the promise of a very complete treatise on ophthalmology fulfilled. The illustrations, however, leave much to be desired, being neither so large nor so numerous as we now consider necessary in a text-book. In spite of the well-written text and the efficient services of Dr. Foster, the translator, it would seem that there is no great need for a work of this sort in view of the many similar publications already in the market.

Diagnostik der Farbensinnstörungen. Eine Einführung für Sanitätsoffiziere, beamtete Aerzte, Bahnärzte und Studierende. Von Professor Dr. Stargardt, Privatdozent an der Universität zu Kiel, and Professor Dr. Oloff, Marine-Oberstabsarzt zu Kiel. Boards. Price, 1.80 marks. Pp. 45. Berlin: Julius Springer, 1912.

The authors treat the question of color-blindness from the practical points of view of army, marine and railway requirements. After discussing the theories of the color sense and classifying color disturbances, they describe a variety of tests, emphasizing the necessity of using several tests to avoid errors. Nagel's and Stillings' methods are recommended especially.

Die Krankheiten der Mundhöle, des Rachens und der Nase. Von Dr. L. Grünwald. Third Edition. Part 1: Lehrbuch. Lehmann's Medizinische Handatlanten. Volume 4, Part 1. Cloth. Price, 18 marks. Pp. 801, with 230 illustrations. Munich: J. F. Lehmann, 1912.

Although this is the third edition, the rapid advancements which have been made in the special subjects under discussion since the second edition have made it necessary almost to rewrite the entire volume. Much new matter has been added, so that the size of the volume has been increased considerably. A special feature of the work, as of all Lehmann's atlases, are the illustrations, of which ten are in color. Deserving of particular mention are the chapters on the development, anatomy and physiology of the mouth, throat and nose, subjects which in most works are usually slighted. An elaborate bibliography and a good index complete the work.

Die klinische Stellung der sogenannten genuinen Epilepsie. Referate, Erstattet auf der Tagung der Gesellschaft deutscher Nervenärzte in Hamburg, 1912. Von Prof. Dr. E. Redlich and Geh.-Rat Prof. Dr. O. Binswanger. Paper. Price, 6 marks. Pp. 146. Berlin: Julius Springer, 1913.

This paper, by two competent observers, on the clinical position of so-called "genuine" epilepsy constitutes interesting reading. It is to be regretted, however, that after reading this critical material, we have learned nothing new. The fact is that, though prizes have been awarded and much labor has been spent in elucidating the problem of epilepsy, we are no nearer its solution than Hughlings Jackson and Gowers were when they spoke of explosions of nervous energy. At the same time the brochure before us is proof of great activity and of an earnest attempt to correlate all that has so far been done in this perhaps the most obscure chapter in neuropathology.

The History of the Prison Psychoses. By Drs. Paul Nitsche and Karl Wilmanns. Authorized Translation by Francis M. Barnes, Jr., M.D., Senior Assistant Physician, Government Hospital for the Insane, Washington, D. C., and Bernard Glueck, M.D., Senior Assistant Physician, Government Hospital for the Insane, Washington, D. C. With an Introduction by William A. White, M.D. Nervous and Mental Disease Monograph Series No. 13. Paper. Price, $1.25. Pp. 84. New York: The Journal of Nervous and Mental Disease Publishing Company, 1912.

The excellent historical review of the prison psychoses, of which this is a translation, covers the period from the pioneer publication of Delbrück down to the present. It cannot fail to attract the attention of penologists and psychiatrists throughout the country, as the important relation of crime to the psyche is daily becoming more evident. Dr. William A. White in the introduction to this monograph states as his opinion that "the present volume should serve a distinct purpose in helping to fix attention on those concepts and methods that make for a better understanding of the criminal and for more intelligent methods of dealing with the many difficult problems that surround him." While this monograph is purely historical in content, its perusal by state's attorneys and judges might lead to some practical reforms.

Medicolegal

Constitutionality of Law Imposing License Tax and Exempting Ex-Confederate Soldiers

(McLendon vs. State (Ala.), 60 So. R. 392; 406)

The Supreme Court of Alabama holds constitutional section 33½ of the revenue law of that state in so far as it provides that any person engaged in the practice of medicine or other named professions "having a place of business and charging for his services shall pay an annual license for the state only of five dollars; provided . . . that no person shall be required to pay this tax until after he has practiced his profession for one year." But it holds unconstitutional that portion of the section which provides that "ex-Confederate soldiers who are entitled to practice any of these professions in Alabama shall not be required to pay this tax."

The court says that it is unable to see clearly that the exemption of Confederate veterans from the payment of this occupation tax, as here provided for, is inconsistent with the principle of equality and uniformity in the imposition of the tax, or in violation of any of the general provisions of the Bill of Rights. Furthermore, three members of the court are of the opinion that the fourteenth amendment to the federal constitution is not offended by said section 33½; but three members think that the immunity granted to Confederate veterans by its proviso clause is offensive to that amendment, and that the entire section is thereby rendered invalid, while the seventh member, casting the decisive vote forming the decision of the court, holds that the proviso clause is invalid, but that the rest of the section is valid with the proviso stricken out. There is no natural distinction between such veterans and other citizens which can legitimately mark them for favor in the unrestricted and unburdened pursuit of occupations which all citizens have an equal right to follow under equally favorable conditions.

Explanation of Provision to Secure Hygienic Schoolhouses

(Lunn vs. City of Auburn (Me.), 85 Atl. R. 893)

The Supreme Judicial Court of Maine says that before section 2 of chapter 88 of the public laws of that state of 1909 was enacted, the statute, for over fifty years, had required the approval of the plans of schoolhouses by the school committee. This was undoubtedly based on the presumption that approval would embrace the important features of "heating, lighting, ventilating and the hygienic conditions of such buildings." But the presumption became a myth in the progress of sanitation; consequently section 2 was enacted to make imperative what before was presumed, the section providing that "Where the plans and specifications prepared by the state superintendent are not used, all superintending school committees of towns in which new school houses are to be erected shall make suitable provision for the heating, lighting, ventilating and hygienic conditions of such buildings, and all plans and specifications for any such proposed school building shall be submitted to and approved by the state superintendent of public schools and the state board of health before the same shall be accepted by the superintending school committee or school building committee of the town in which it is proposed to erect such building."

"Hygienic conditions" have become, under modern requirements of sanitation, vital and indispensable features of plans and specifications intended for the erection of a school house at the present time. The legislature insisted by the language used that they should be. The word "hygienic" takes the work of the committee into the domain of medical science. Hygiene is defined: "A system of principles or rules designed for the promotion of health." "Hygienic: Pertaining to health or the science of health." Century Dictionary. To insure efficient action the plans must be approved, not only by the state superintendent, but by the board of health, composed partly of medical men. Thus important did the legislature wisely regard the care and health of the school children.

Loss of Examiners' Decision and Failure to Send Notice

(State ex rel. Stanley vs. Witter et al. (Wash.), 123 Pac. R. 471)

The Supreme Court of Washington says that the statute of that state provides that, in case of a refusal of a license by the medical board, the board shall file a brief and concise statement of the grounds and reasons for such refusal in the office of its secretary, "which statement, together with the decision of said board in writing, shall remain of record in said office." But when the secretary of the board at the time testifies that a formal decision was prepared by the board and filed the fact that it seems subsequently to have been lost or misplaced does not entitle the applicant in the case for a license to have the board act on his license as if in the first instance. If his rights are in any way jeopardized by the destruction of the paper, he possibly could by proper procedure have the same restored; but the destruction of the paper does not entitle him to have the board act anew on his application.

The relator complained that no notice of the rejection of his application was sent to him, and, conceding that he received no such notice, although the secretary of the board disputed his contention to that effect, the fact did not affect the issuance of a writ of mandamus to compel the board of medical examiners to act on his application for a license. He is not now entitled to have further action on his application by the board simply because no notice was sent to him of its original action. If notice was necessary to start the running of the time within which he must appeal from the decision of the board, failure to give the notice would simply extend indefinitely that time; it would not entitle him to force the board to rehear his application.

Practice Without License—Registration of Osteopath's Diploma Not Enough—State Need Not Prove Practice by Any System or Method

(Collins vs. State (Tex.), 152 S. W. R. 1047)

The Court of Criminal Appeals of Texas affirms a conviction of the defendant Collins of unlawfully practicing medicine without a license, for which he was fined $200 and one day's confinement in jail. The court says that it is clearly of the opinion that no honest jury could have found a verdict from the evidence and law in this case other than that of conviction. This evidence, without doubt and without contradiction, showed that the defendant was a doctor of the school of osteopathy, called himself an osteopath, and that he practiced such at the time and place and on the person charged in the complaint and information; that he did treat one Fouch for a disease of his hand, claiming that he could cure it or any other disease; and that he charged and was paid therefor. Fouch testified that he went to the defendant for the purpose of having him treat his hand, which had been hurt something like three months previously, and that the defendant treated him by rubbing his back, pulling his legs and arms, and twisting his head and neck around in different ways; that he treated him in that manner five times in all, for which he paid $2 a treatment; that the treatment did his hand no good, but appeared to make it worse. The complaint and information stated that the disease of the hand was blood-poison.

The court holds that, after the state made the proof it did, it clearly devolved on the defendant to prove, if it was true, that he had a license, whether it was an original one issued to him by the board of medical examiners on examination, or a verification certificate or license based on a diploma. The state even went further than it was required to go at all by showing affirmatively that he had no license registered, either an original issued to him by the board of medical examiners, or a verification license issued to him by said board based on any diploma he may have had. Clearly, under the Texas law, although he had a diploma from the school of osteopathy, which he introduced and which evidently was the one that he had registered, did not entitle him to practice his profession without standing an examination and getting a regular license from the board of examiners, or producing his diploma or other documents before said board and getting from it a verification certificate or license, and, whichever he had, properly registering it with the necessary affidavit made by him.

The main contention of the defendant seemed to be that it was incumbent on the state to prove that he practiced, either generally or on this particular patient, by some particular "system or method," and, as the state had not so proved that he practiced by some particular "system or method," that therefore his conviction was erroneous. The court does not so understand the statute. It was not incumbent on the state to show that his practice was by any system or method, but simply and solely that he treated a disease or disorder, mental or physical, and charged therefor, whether that treatment was by any system or method or not. In other words, the law, as the court understands it, does not permit any one to treat any disease or disorder and charge therefor, without first getting a license or a certification license and having it properly registered in the district clerk's office of his residence, whatever his method or system of treatment, or whether he has any method or system or not.

No Appeal from Board's Decision Under Reciprocity Act—Revocability of Reciprocity Licenses

(Williams vs. Minnesota State Board of Medical Examiners (Minn.), 139 N. W. R. 500)

The Supreme Court of Minnesota holds that the action of the State Board of Medical Examiners in refusing, on any ground whatsoever, to grant a license to a physician licensed in another state, and who makes application for a license in Minnesota, under the so-called "reciprocity act," chapter 236 of the general laws of 1905, is not reviewable by appeal to the district court. The court says it thinks that from a review of the statutes it is apparent that the legislature in recent years has had in mind two methods of admission to practice medicine in the state, namely: (1) By examination; and (2) in the case of foreign physicians, with or without examination, in the discretion of the board—the former provision for admission on diploma having expired Jan. 1, 1899, by express limitation fixed by chapter 89 of the general laws of 1895. Furthermore, it appears that section 2296 of the revised laws of 1905 applies to all persons, whether residents or otherwise, not authorized to practice in the state, who desire such admission on examination and the payment of a fee of $10; examination not only being a condition precedent, but the predominant feature of the act. On the other hand, the reciprocity act contemplates a wholly different procedure. It is plainly a limited statutory application of the doctrine of comity, and is, on this account and by the express provisions of the act, essentially different from the provisions conferring the absolute right to admission to practice medicine on the specified conditions as to examinations, etc. The board is authorized to admit a foreign physician, either with or without examination, which, of necessity vests the board with a certain discretion, and if it sees fit to require an examination the fee therefor is $50; the statute in both of these particulars being widely variant from the general act. Moreover, the two methods of admission referred to have always been made the subject of separate and distinct enactments. The reciprocity act contains no provision concerning appeals, and while the court may not, perhaps, be required to search for a reason for this omission, it might be attributed to the reciprocal nature of the act, in which connection it may be suggested that it does not appear that appeals are allowed in such cases in other states. Reciprocity and comity import the granting of a favor, which conception of itself would seem to negative the right to complain of its denial, except where such right is clearly given.

The right of appeal is purely statutory. The reciprocity act, as stated, contains no provision for appeal. To sustain the appellant's contention, the court would have to ignore the distinction between the act under which the appellant claimed admission and section 2296, and likewise the reciprocity features of the former, and also would have to assume that the legislature, by the act of 1909, which purports to amend only section 2296, intended to confer the right to appeal on persons not otherwise within its provisions, and whose sole claims in the premises are based on another and distinct act.

In reaching the conclusion that the action of the board in refusing a license applied for under chapter 236 of the general laws of 1905, as amended, is not appealable, the court has not overlooked the suggestion that the result reached would necessarily involve a holding that the board would be powerless to revoke a license granted under the reciprocity act. While such question is a proper one to be considered in determining the legislative intent here involved, its determination in accordance with the appellant's suggestion should not affect the court's conclusion on the question before it; nor does the court pass on it. The court will say, however, that it thinks that such a result does not necessarily follow; but, as there may be some doubt about this, it thinks that it is a matter which should be given legislative attention.

Amounts Paid for Proper Services Not Recoverable for County

(Commonwealth, for Use of Hickman County, vs. Scarborough (Ky.), 147 S. W. R. 31)

The Court of Appeals of Kentucky affirms a judgment sustaining a demurrer to and dismissing the commonwealth's petition to recover from the defendant money alleged to have been improperly paid to him for sevices rendered while a member of the board of health of Hickman County. The court says that he was appointed such member some time in 1903; that he became the secretary of the board and continued in that position for about ten years; that the fiscal court allowed him for his services certain sums altogether amounting to something over $900. It was alleged that the fiscal court made these allowances after the defendant filed a written statement of his account for the year in which his services were rendered. The accounts were itemized. They gave the names of the persons treated for contagious diseases, the names of the persons and families quarantined, and the dwellings fumigated. But it was alleged that, as neither the county board of health nor the State Board of Health had directed the treatment, fumigation and quarantining of the particular persons and places named in the itemized account, the defendant was not authorized to charge for his services, and the court made void orders in allowing him the claims as presented. However, the statute authorizes payment to persons who perform such services as did the defendant. According to the petition, he was a health officer of the county and the secretary of the board, and he performed the services for which he was paid. The error was, according to the petition, that he had not performed same under the orders of the board; that he used his own judgment in the performance thereof. This would have probably been a good defense to his claim, but was not a sufficient reason to require him to refund the money after he had received it under an allowance by the fiscal court.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Albany (N. Y.) Medical Annals

March, XXXIV, No. 3, pp. 125-188

1 *Two Cases Exhibiting Lesions of Special Interest for Localization of Aphasic Disorders. L. Archambault, Albany.
2 Mental Hygiene in Widening Sphere of Preventive Medicine. T. W. Salmon, Washington, D. C.
3 Periodicity of Inebriety. T. D. Crothers, Harford, Conn.
4 M-Shaped Colon. J. H. Gutmann, Albany, N. Y.

1. Localization of Aphasic Disorders.—The brains of two individuals who were carefully observed clinically were examined by Archambault and a detailed report on his findings is given.

American Journal of Medical Sciences, Philadelphia

April, CXLV, No. 4, pp. 469-624

5 A Year's Work in Hysterectomy. J. B. Deaver, Philadelphia.
6 *Diabetic Standards. E. P. Joslin, Boston.
7 *High Arterial Pressure: High Pressure Hypertrophy of Heart. D. Riesman, Philadelphia.
8 Clinical Study of Coagulation Time of Blood. R. I. Lee and P. D. White, Boston.
9 *Value of Massage in Treatment of Various Disorders in Children. J. Phillips, Cleveland.
10 *Some Hematologic Findings in Pellagra. O. S. Hillman, New York.
11 *Complete Heart-Block with Rapid Irregular Ventricular Activity. S. Neuhof, New York.
12 *Acute Effects of Caisson Disease on Aeropathy. S. Erdman, New York.
13 Late Manifestations of Caisson Disease. P. Bassoe, Chicago.
14 Persistent Ductus Botalli and Its Diagnosis by Orthodiagraph. H. Wessler and M. H. Bass, New York.
15 Empyema, with Special Reference to Feasibility and Importance of Dependent Drainage. T. T. Thomas.
16 Effects of Exposure to Intense Heat on Working Organism. C. N. Fiske, U. S. Navy.

6. Diabetic Standards.—The treatment of eight patients, whose histories Joslin offers, had as its main object the removal of sugar from the urine by dietetic measures, provided weight and strength could be maintained. Usually a diet containing 150 to 100 grams carbohydrate was given at the start, and gradually the carbohydrates were lowered until the sugar disappeared from the urine. Vegetable days were freely employed and occasionally oatmeal days. The preliminary diet often was as follows: strict diet, meat limited to 300 grams, 3 eggs; vegetables in the 5, 6, 10 per cent. groups; cream, 250 c.c. (½ pint); three small oranges or grape fruit; oatmeal, 36 grams (1 gill—dry); bread made with water and without sugar, 100 grams; milk, 500 c.c. Changes in the diet were made by the omission of milk, bread and finally by the simultaneous reduction of oatmeal and fruit. Even before cream was thus reached, however, the quantity of meat would be reduced to about 200 grams and fat increased. When acidosis was present alkali was administered in the form of sodium bicarbonate or sodium citrate. Twelve to twenty-four grams daily represented the usual dose. It is Joslin's present plan to prescribe a restricted diet one day in the week and gradually to increase the carbohydrate on the others up to 70 grams daily, repeating the cycle weekly.

7. High Pressure Hypertrophy of Heart.—The symptoms of the condition which Riesman terms high-pressure hypertrophy of the heart are said to be usually respiratory or gastric in nature; rarely such as to direct attention to the heart and vessels. One-half to two-thirds of the patients complain of indigestion and bloating after meals. A majority of the remainder notice shortness of breath on exertion, which they are inclined to ascribe to distention with gas. A few are first troubled with vertigo, with numbness and tingling of the extremities, or with ringing in the ears. The women have interested Riesman particularly because in few of them had the real nature of the affection been suspected. They had usually been treated for stomach trouble—flatulent dyspepsia or nervous indigestion. The men are usually overweight, with large and solid-looking chests. They have an air of youthfulness and often much vitality. The women are large and have heavy, pendulous breasts.

The heart is found enlarged, often far beyond what one would expect from either the symptoms or the physical appearance and capacity of the patient. The radials are either soft as in youth or a trifle thickened, like a thin-walled rubber tube. The temporals, which are rarely conspicuous in women, may not be abnormal. An arcus senilis is often present. The urine may not show anything of importance except a slight increase in quantity. The specific gravity will not vary much from the normal, but there is one factor of importance, namely, that these patients pass much larger amounts of urine during the night than in the daytime. The blood-pressure will be found high—from 190 to 260 or even more—far beyond what would be expected from an examination of the arteries.

The hypertrophy of the heart, which is always present, is not due to valvular disease. There are no endocardial murmurs, except, perhaps, late in the course, when through loss of compensation the heart dilates and a mitral systolic murmur appears. Usually, indeed, almost without exception, the second aortic sound is much accentuated, and the first sound at the apex dull and heavy. The heart is generally regular.

Riesman states that this type of hypertrophy is frequently overlooked, because many examiners fail to palpate and to percuss the heart. Not rarely there is a systolic murmur at the aortic area without concomitant signs of aortic stenosis.

As to treatment, all that may safely be attempted is to lower the blood-pressure when it is excessively high to a point where symptoms cease and to keep it there. *First and foremost* is rest, mental rest being more important than physical rest, although the latter has its place. The diet is of importance, but more from the point of view of quantity than of quality. A valuable admonition is that the patient should eat a small evening meal; he will rest much better. Tobacco, alcohol, tea or coffee are not good for these patients, a fact they often discover for themselves. The bowels must be kept open. No one remedy or measure can be employed for all cases.

As for drugs, nitroglycerin, sodium nitrite, erythrol tetranitrate may be used to relieve symptoms, but the continued use of the nitrites is of doubtful utility unless the pressure is rising, or there is angina pectoris, or marked dyspnea. In such cases they may be given over a long period in large doses. The iodids Riesman gives routinely. He prefers the sodium salt given two hours after meals, in water or milk. Many patients who are suffering from dyspnea and even from vertigo do well on small doses of digitalis. Riesman prefers either the tincture in from 5 to 10 mm. doses three times a day, or the powdered leaves (¼ to 1 grain). There is one more measure in the value of which he has an abiding faith—namely, venesection. It is safe to abstract in such cases up to a pint of blood, and if the pressure instrument is kept on the arm and the pressure controlled, one may take off 20 to 24 ounces.

9. **Massage in Various Disorders in Children.**—Phillips calls attention to the value of massage in the treatment of malnutrition, rickets and various other disorders in children.

10. **Hematologic Findings in Pellagra.**—According to Hillman there occasionally exists in pellagra a variable degree of chloranemia, which, however, is not a prominent feature of the attack. The disease, apparently, may be present for some time without leading to any anemic changes. Whether the anemia is due to the actual existence of pellagra, or is the result of an indefinite train of antecedent conditions extending over a period of time before the inception of the disease, is difficult to say. On the other hand, many patients are perfectly well up to the onset of the attack. One of the most noteworthy features in connection with the leukocytes is the not infrequent presence of a leukocytosis, which appears to be inexplicable in the light of our present knowledge of the disease. This might suggest the possibility of an infectious etiology of obscure origin, or may be due to complicating disturbances. The lymphocytosis is interesting and is probably in accordance with the general cachectic condition of most pellagrins who are also often the subjects of gastro-intestinal disorders. Hillman's investigation seems to indicate that there are no characteristic or constant variations in the large mononuclear leukocytes and eosinophils.

11. **Heart-Block with Ventricular Activity.**—A case of complete heart-block with rapid *arrhythmic ventricular action* is recorded by Neuhof. Atropin was administered on two occasions. The first time the block was probably relieved; at the second it was not. The rate of both auricles and ventricles was increased. The electrical complexes of all the ventricular cycles, long and short, were identical. Neuhof concludes therefore that ventricular arrhythmia not due to ectopic ventricular contractions may occur in heart-block, assuming the block to be complete.

12. **Acute Effects of Caisson Disease.**—Erdman reports what he believes to be the first analysis ever made of the gases found in the right heart of a man who died from the effects of this disease. Nov. 19, 1907, he collected 3.1 c.c. of gas by aspiration from the right heart at the autopsy, fourteen hours post mortem, of a man who died in one hour after a seventeen-minute decompression, following eight hours' exposure to +30 pounds pressure. On analysis this gas yielded nitrogen 80 per cent., CO_2 20 per cent., which percentages are in accord with analyses made in animal experiments by various writers on this subject.

Archives of Internal Medicine, Chicago

March 15, XI, No. 3, pp. 249-364

17 Complement Fixation Test for Syphilis with Cadaver Serum. R. L. Cecil and A. R. Lamb, New York.
18 *Renal Function in Renal, Cardiorenal and Cardiac Diseases. L. G. Rowntree and R. Fitz, Baltimore.
19 *Experimental Observations on Effects of Administration of Iodin in Three Cases of Thyroid Carcinoma (Two Human and One Canine). D. Marine and A. A. Johnson, Cleveland.
20 Hemolysins in Stool Extracts. A. H. Hopkins, Philadelphia.
21 Experimental Observations on Coagulation of Oxalated Plasma, with Cases of Purpura. J. H. Austin and O. H. P. Pepper, Philadelphia.
22 Primary Carcinoma of Larger Bronchi. C. V. Weller, Ann Arbor, Mich.
23 *Localization of Impulse Initiation and Conduction in Heart. J. Erlanger, St. Louis.

18. **Renal Function in Renal, Cardiorenal and Cardiac Diseases.**—The renal function was studied by Rowntree and Fitz in fifty-seven patients, the cases including pure nephritis, cardiac and cardiorenal diseases, the tests used being phenolsulphonephthalein, lactose, salt, water, potassium iodid and the accumulation in the blood of uncoagulable nitrogen. In certain cases, the excretion of indigo carmin and rosanilin was studied, as was also the glycosuria following the injection of phloridzin. They conclude that the functional condition of the kidney can unquestionably be determined much more accurately by the use of these tests than through ordinary clinical studies alone. The phthalein test is of great diagnostic and prognostic value. For general use it is of more value prognostically than any other single test; diagnostically, also, it is of value in cardiorenal disease for determining the relative responsibility of the heart or kidney for the clinical condition. The lactose test is of great value diagnostically in determining the existence of abnormal renal function. The significance of its delayed excretion is obscure. The suppression of the excretion of lactose may be of considerable value prognostically. The salt test if considered alone is of no value, since it is subjected to so many extrarenal factors. When considered in conjunction with clinical and other functional studies, it may prove of some value diagnostically and prognostically. The amount of water excreted in cases of pure nephritis in response to sodium chlorid stimulation may be of diagnostic value. The potassium iodid test is of little value diagnostically or prognostically. The marked accumulation in the blood of incoagulable nitrogen, in cases of nephritis when present, is of considerable prognostic value.

It is possible in cases of cardiorenal disease with varying degrees of chronic passive congestion and nephritis to determine which factor is of greater importance in the causation of the clinical picture encountered. This can be done most readily by repeated phthalein tests, while the determination of incoagulable nitrogen in the blood may also be of value. The lactose and iodid tests are of no value in this respect. It is possible by these tests to diagnosticate the presence or absence of impairment of renal function in cases in which clinically nephritis is suggested. In this respect the lactose and phthalein tests are of most value. Before feeling convinced of the justifiability of drawing conclusions relative to the involvement of the vascular or tubular functions under pathologic conditions, they feel that a much deeper knowledge concerning the physiology of the excretion of these various substances studied is necessary.

19. **Iodin in Thyroid Carcinoma.**—The principle data of Case 1 are: Patient was under observation 168 days—23 days before and 145 days after operative removal of part of the thyroid tumor. Metastases were without doubt present before the patient came under observation. The thyroid contained several adenomas of the fetal type and while it is impossible to state from what portion of the thyroid the carcinoma originated, Marine and Johnson have come to the conclusion from the tumor pattern that it probably originated from an adenoma. The whole course of the disease was, as far as could be determined, one of uncomplicated thyroid cancer. Seventeen c.c. of syrup of ferrous iodid was given before operation and 12 gm. of sodium iodid, and 198 c.c. of the syrup of ferrous iodid were given after operation—iodin having been continuously administered from Nov. 14, 1911, to April 15, 1912, with the exception of eighteen days from Dec. 20, 1911.

Patient 2 was in the hospital until death—235 days. She was admitted for and had active pulmonary tuberculosis. Thyroid carcinoma was not definitely recognized until December 3, when, owing to tracheal stenosis, a palliative operation was advised. The tuberculosis doubtless hastened death. The tumor though metastasizing was of slower growth than that in Case 1. The carcinoma and the tuberculosis were joint factors and the individual importance of each cannot be estimated. In this case also there was one typical adenoma in the right lobe and the general type of tumor led the authors to look on this carcinoma as also originating in an adenoma. No iodin was given prior to the operation. Following the operation iodin was given continuously until April 25, 1912—eight days before death—with the exception of fifty-two days following Jan. 5, 1912. She received a total of 13 gm. of sodium iodid and 119 c.c. of syrup of ferrous iodid.

In Case 3 a dog was under observation for approximately seven months. Carcinoma was suspectetd after the fifth month. Small doses of Lugol's solution were administered by mouth with slight interruptions from October until May 8. The total amount of iodin used could not be obtained. In these three cases, therefore, it seems that cancer tissue exhibits practically no capacity for iodin retention, contrasted with the non-tumor thyroid, which has a marked capacity for storing iodin; and with benign epithelial tumors (adenomas), all of which in some phase of their existence have some capacity for iodin, thyroid cancer exhibits the least—in these three cases probably no capacity for iodin.

23. **Localization of Impulse Initiation and Conduction in Heart.**—The first conclusion which Erlanger says one is apt to draw from a review of the work that has been done in the effort to localize the site of impulse initiation and conduction is that the former subject at least is in a state of hopeless confusion. Erlanger predicts, however, that when the last word has been said, the structure and function of the mammalian heart will be found to be almost identical with the structure and function of the heart of cold-blooded animals, of which the heart of the eel, owing to its simplicity and to the care with which it has been studied, may serve as a type. The normal sequence of the eel's heart differs in no wise from that in other hearts, sinus, auricles and ventricles contracting in the order given, which is also the order of the rhythm of these parts when isolated. Under the eye it can be seen that the contraction begins in the venous part of the sinus. It passes from the sinus directly into the nearest part of the auricle and then spreads over the auricular tissue, whence it passes into the auricular canal through which it finally involves the central fibers of the ventricle. "The rhythmic power of each segment of the heart varies inversely as does the distance from the sinus." The auricular canal, which might almost be regarded as a prolongation of the sinus tissue, possesses a much higher rhythmic power than the auricles. Therefore, in the mammalian heart we should expect the rhythmicity of the sino-ventricular bundle to be exceeded only by that of the sinus region, and this seems to be the case. In the eel's heart the impulse normally reaches the ventricle by way of the auricle, but it can reach the ventricle directly by way of the auricular canal also. In the latter event the auricles do not contract. The anatomic possibility of this path has been all but worked out in the mammalian heart. It is believed that the finding of such a path would help materially toward accounting for the appearance of nodal rhythm following excision of the upper part of the sinus region as well as for many other of the phenomena noted in this paper. In any event, Erlanger says, we cannot afford, in the interpretation of the functions of the heart of man, to ignore the results of investigation in the field of comparative physiology.

Archives of Pediatrics, New York

March, XXX, No. 3, pp. 161-240

24 Some Practical Points in Management of Breast-Feeding. E. Pritchard, London.
25 Case of Abnormal Physical and Sexual Development in Infant of Two Years, Probably Due to Tumor of Pineal Gland. J. L. Morse, Boston.
26 Effect of Moderately High Temperature on Infant. J. H. M. Knox, Baltimore.
27 Need of Psychologic Clinics in Connection with Public Schools. L. P. Clark, New York.
28 Mental Defective and Society. W. L. Stowell, New York.

Arkansas Medical Society Journal, Little Rock

March, IX, No. 10, pp. 229-253

29 Acute Suppurative Otitis Media. W. T. McCurry, Little Rock.
30 The Obstetrician and the Perineum—His Care of During and After Labor. A. E. Cox, Helena.
31 Justification of Animal Experimentation. S. B. Hinkle, Little Rock.
32 Importance of Oral Hygiene to Physician. E. Stewart, Little Rock.

Boston Medical and Surgical Journal

April 3, CLXVIII, No. 14, pp. 485-524

33 *Some Factors Which Influence Excretion of Formalin in Urine of Children and Infants Taking Hexamethylenamin. F. B. Talbot and W. R. Sisson, Boston.
34 Coxa Vara: With Spontaneous Recovery from This Deformity. J. W. Sever, Boston.
35 Results of Wassermann Test in Two Hundred Consecutive Admissions to Danvers State Hospital. H. L. Paine, Hathorne, Mass.
36 Etiology of Hay Fever. A. Coolidge, Boston.
37 Idem. T. Smith, Boston.

33. **Excretion of Formalin in Urine of Children Taking Hexamethylenamin.**—From their observations, the authors conclude that all children are capable of breaking down hexamethylenamin, and that they all consequently excrete formaldehyd, although relatively large doses are often necessary before the excretion of formaldehyd takes place. They agree with Jordan that the more acid the urine the greater is the decomposition of hexamethylenamin and excretion of formaldehyd. Since it has been shown by other observers that the antiseptic power of hexamethylenamin is dependent, not on the hexamethylenamin, but on the presence of free formaldehyd. Hence it should not be given with drugs that cause the urine to turn alkaline to insure the efficacy of the drug, specimens of urine after the administration of hexamethylenamin should always be examined for the presence of free formaldehyd.

Journal of Experimental Medicine, Lancaster, Pa.

April, XVII, No. 4, pp. 373-497

38 Selective Bactericidal Action of Stains Closely Allied to Gentian Violet. J. W. Churchman, New Haven, Conn.
39 Metamorphosis of Endostyle (Thyroid) of Ammocoetes Branchialis (Larval Land-Locked Petromyzon Marinus (Jordan) or Petromyzon Dorsatus (Wilder). D. Marine, Ithaca, N. Y.
40 Possible Importance of Colloidal Protection in Certain Phases of Precipitin Reaction. H. Zinsser and S. W. Young, Palo Alto, Cal.
41 *Relation of Leukocytic Bacteriolysin to Body Fluids. W. H. Manwaring, New York.

42 *Reaction of Lungs to Intrabronchial Insufflation of Killed Virulent Pneumococci and of Plain Sterile Bouillon. W. Wollstein and S. J. Meltzer, New York.
43 Influence of Vagus Nerves on Faradized Auricles in Dog's Heart. G. C. Robinson, New York.
44 *Chemistry of Blood-Serum. A. A. Epstein, New York.
45 *Studies in Ferment Action. VII. Toxic Split Products of Bacillus Typhosus. J. W. Jobling and C. G. Bull, Chicago.
46 *Transplantable New Growth of Fowl, Producing Cartilage and Bone. W. H. Tytler, New York.
47 *Transplantability of Tissues to Embryo of Foreign Species. Jas. B. Murphy, New York.
48 False Transitions Between Normal and Cancerous Epithelium. P. Rous, New York.

41. **Leukocytic Bacteriolysin and Body Fluids.**—The bacteriolysin studied by Manwaring was obtained from horse leukocytes, according to the technic described in his previous communication. This extract had been heated to 57 C. for thirty minutes, had been dialyzed free from diffusible products, and then evaporated to dryness *in vacuo* at 45 C. It was tested after having been stored in a vacuum at 4 C. for about six months. The tests were made at room temperature. He found that an extract of horse leukocytes is strongly bactericidal when dissolved in distilled water; it has considerable bactericidal power when dissolved in physiologic saline; but it loses its bactericidal properties when mixed with blood-serum or with normal or pathologic tissue fluids. About half the antibactericidal action of blood-serum is due to the serum colloids, about a quarter to the neutral serum crystalloids, and a quarter to the diffusible alkalies. Diffusible acids have no antibactericidal action. The addition of boric acid to an inactive mixture of leukocytic extract and serum or other body fluid occasionally restores part of the original bactericidal power, but never more than a small fraction of that power.

42. **Reaction of Lungs to Insufflation of Killed Pneumococci.**—The experiments of Wollstein and Meltzer show that intrabronchial insufflation of a culture of virulent pneumococcus killed by heat and still containing stainable organisms produces an inextensive, mild, patchy, superficial inflammation of the lung tissue bearing no similarity to the lesions produced by the living pneumococcus, and that insufflation of sterile bouillon causes a prolonged congestion of the lung tissue with which it comes in contact, sometimes lasting for forty-eight hours.

44. **Chemistry of Blood-Serum.**—Since his last publication on the subject, Epstein has had the opportunity of examining a number of other blood-serums from cases of genito-urinary disease. The particular object aimed at in the study of these cases was to ascertain to what extent localized renal affections react on the composition of the blood, especially on the protein content of the serum. In the minor surgical cases (considered normal) the chemical composition of the blood-serum agrees, as far as its proteins are concerned, with the usual standard values. When examined at different times, the serum of such cases shows no variation in the total protein content or in its individual fractions. The incoagulable nitrogen, however, varies considerably in the total amount in the different cases, as well as in its percentage relations to the other constituents of the serum. Cases of prostatic hypertrophy, with or without chronic interstitial nephritis, show no change from the normal in the character of the protein composition of the serum, nor in the ratio which the individual fractions bear to each other. On the other hand, the incoagulable and non-protein nitrogen of the serum showed marked fluctuations, some of which correspond to the degree of functional deficiency of the kidneys.

In cases of localized infections of the kidneys, the changes in the blood-serum are twofold. One concerns the proteins, and is traceable to the infection; and the other concerns the nonprotein nitrogen, results from functional impairment, and varies with the amount of destruction of the kidney substance. Thus an increase in the globulins is observed in these serums similar to that occurring in infections in other localities; the nonprotein content increases apparently in direct proportion to the degree of deficiency of the kidney, and becomes diminished when the function of the kidneys improves.

45. **Studies in Ferment Action.**—The authors found that a single intravenous injection into dogs of a sufficient number of freshly washed typhoid bacteria produces the symptoms and pathology that characterize anaphylaxis in these animals. These effects are not produced by the coagulable protein-free filtrate from a fresh emulsion, while a similar filtrate from an emulsion digested with leukoprotease is very potent, the toxic portion of the bacterial bodies being changed from a coagulable to a non-coagulable state. The symptoms and pathology described are not specific, since they can be produced by substances other than typhoid toxins. Digestion with leukoprotease furnishes a method of liberating toxic substances from typhoid bacteria resembling the processes of nature more closely than the methods heretofore used. The toxic substances thus liberated are not destroyed by a heat and acid precipitation of the coagulable proteins, and are of the nature of primary proteoses.

46. **Transplantable New Growth of Fowl.**—The tumor which forms the subject of this paper is an osteochondrosarcoma. Its cells regularly undergo a process of metaplasia and differentiation to form cartilage and bone; and the growth is transmissible, like the spindle-celled sarcoma of Rous, by an agent separable from the tumor tissue and filterable through Berkefeld filters. The filtrate, when brought into contact with connective tissue under suitable circumstances, gives rise to the characteristic growth in which is laid down cartilage, followed often by bone. The tumor has been transplanted successfully to seven successive series of hosts. The original growth contained bone and cartilage, was attached to the sternal keel of an otherwise healthy chicken, and appeared to have arisen from this structure. In the growths derived from its transplantation cartilage is regularly laid down, followed later by bone in case the host lives long enough. The prechondral tissue consists of spindle-shaped or multipolar cells of the fibroblast type. The histologic character and the behavior of this prechondral tissue show that it is sarcomatous, a fact further proven by one recent case in which the tumor has metastasized. The secondary growth in this instance consisted of prechondral tissue in which a cartilaginous change was taking place.

The tumor could not be transferred to pigeons, the one foreign species tested, but grew readily in chickens of two alien breeds. Reinoculation experiments suggest the occurrence of a natural, individual immunity, and of a certain degree of acquired resistance. In one fowl visceral growths developed following an intravenous injection of tumor emulsion, although whether they were due to this cause or were secondary to the large implantation growths in the muscles is uncertain. Recently the tumor has been transmitted by means of the filtrate from a Berkefeld filter.

47. **Transplantability of Tissues to Embryo.**—Murphy found that inoculation of the Jensen rat sarcoma into the developing chick embryo gives a rapidly growing tumor at the site of inoculation, whether in the membranes or in the body of the chick itself. These tumors by transfer from embryo to embryo can be kept going for as long as forty-six days, and perhaps indefinitely in the foreign species. The rat cells show no morphologic change even after a very long dependence. Their biologic characters are also retained, as is shown by the fact that the cells when replanted in the rat, after a prolonged sojourn in the chick, will produce rapidly growing sarcoma of the Jensen type. These rat tissues grown for long periods in the chick show no adaptation to the new species, being destroyed even more rapidly when placed in the adult chicken than cells taken directly from the rat. Morphologically the cells retain a close resemblance to those in the original tumor. Other tissues grown in chick embryo are various embryonic cells from the chicken, mouse and rat, Ehrlich sarcoma and chondroma of the mouse, a mammary carcinoma of the mouse, the Flexner-Jobling adenocarcinoma of the rat, and a human sarcoma.

Kentucky Medical Journal, Bowling Green

April 1, XI, No. 7, pp. 267-306

49 Alcohol, Its Therapeutic Uses and Limitations. W. F. Boggess, Louisville.
50 General Therapeutics of Diseases of Infancy and Childhood. B. J. O'Connor, Louisville.
51 Differences Between Therapeutist and the "Master-Hand" of the Surgeon. M. C. Kash, Salyersville.
52 Surgical Aspect of Appendicitis. G. P. Grigsby, Louisville.

53 Diagnosis of Surgical Diseases of Kidney. G. P. Grigsby, Louisville.
54 Systematic Factors in Etiology of Progressive Deafness. J. A. Stucky, Lexington.
55 Necessity and Means for Early Diagnosis in Malignant Disease. W. E. Senour, Bellevue.
56 Advancement in Treatment of Infectious Diseases. H. J. Farbach, Louisville.
57 Belladonna. J. T. Dixon, Owensboro.
58 Nitrous Oxid and Oxygen Anesthesia. J. R. Boone, Bardstown.

Medical Record, New York

April 5, LXXXIII, No. 14, pp. 599-644

59 Summary of Origins, Transformations and Present-Day Trends of Paranoia Concept. S. E. Jelliffe, New York.
60 Surgical Conditions of Abdomen in Their Relation to Life Expectation. M. B. Miller, Philadelphia.
61 Vapor Anesthesia and Its Advantages. H. C. Falk, New York.
62 Differential Diagnosis of Lobar Pneumonia. C. E. Nammack, New York.
63 Blunders Made by Nature. A. Maverick, San Antonio, Texas.
64 *Celloidin-Paraffin Method for Embedding and Handling Tissue. H. M. Francisco, New York.
65 Surgical Tuberculosis. L. Sexton, New Orleans.

64. **Celloidin-Paraffin Method for Embedding and Handling Tissue.**—The method devised by Francisco embodies the following steps:- 1. Fix and harden the select tissue in the usual way, i. e., Orth's fluid, 5 days; Glia-Beiz, 7 days, etc. 2. Wash in running water 12-24 hours. Wash over night in a good stream of tap water. Then cut your sections in the forms and sizes indicated. Keep them about 1½ cm. by ½ cm. thick. 3. Pass the blocks through 50 per cent. alcohol, 3 hours; 70 per cent. alcohol, 3 hours; 90 per cent. alcohol, 3 hours; then 96 per cent. alcohol over night. 4. Absolute alcohol 10-12 hours or during the next day. One can keep this absolute by keeping a layer of anhydrous copper sulphate with a piece of filter paper covering it in the bottom of the bottle or jar used. 5. Absolute alcohol and ether over night. 6. Thin celloidin, 24 to 48 hours, the longer period the better. 7. Thick celloidin, 24 to 72 hours, the longer period the better. 8. Pure chloroform, 6 hours. 9. Xylol, 1 hour. 10. No. 1 xylol-paraffin, over night, 12 hours. This is a half-saturated solution of 52-54 C. paraffin. 11. No. 2 xylol-paraffin, 12-24 hours. This is a saturated solution at room temperature. 12. Melted 52-56 C. paraffin for 6 hours in the oven at even temperature at 55 C., not over. 13. Orient face down and block with melted paraffin in paper boats properly labeled, and cool rapidly by floating in ice water. 14. When hard trim down specimen to proper size, record label and sketch shape and size of specimen if necessary. Mount on paraffin holder with warmed spatula, or file away until ready to be cut. 15. Cut sections the desired thickness. Francisco finds that they apparently cut and can be handled best at 10 micra with a dry knife, as for paraffin sections. Or if sections are larger they may be cut on a celloidin microtome dry with a slanting knife. 16. Carry cut specimens from the knife into xylol to dissolve out paraffin. 17. Carry over into chloroform, to wash out the xylol. This also helps to remove paraffin and straightens the sections somewhat. 18. Carry over into 80 per cent. alcohol. Here they may remain until needed for use or one can put them into small bottles of 70 per cent. alcohol for preservation or transportation. 19. Carry over into water and straighten out. If one has many sections he can here discard those of no use before staining. Steps Nos. 16, 17, 18, 19 can be performed with single sections or upward to 100 collectively, using a glass lifter and draining each loopful as carried over.

New Mexico Medical Journal, Las Cruces

March, IX, No. 6, pp. 135-156

66 Municipal Hygiene. C. M. Mayes, Roswell.
67 Surgery of Head. W. J. Jolly, Oklahoma City.
68 Gastro-Intestinal Auto-Intoxication. E. C. Prentiss, El Paso, Texas.
69 Malnutrition in Breast-Fed Infants. M. Cartwright, Albuquerque.

New York Medical Journal

April 5, XCVII, No. 14, pp. 689-740

70 Adventure in Practice. J. G. Mumford, Clifton Springs, N. Y.
71 Postgraduate Work in Vienna. A. Maverick, San Antonio, Texas.
72 Developmental Alexia. B. Chance, Philadelphia.
73 Treatment of Epilepsy with Hypodermic Injections of Crotalin. R. H. Spangler, Philadelphia.
74 Infection with Entameba Tetragena. W. M. James, Ancon, Canal Zone.
75 Tabes Dorsalis Without Lymphocytosis. T. A. Williams, Washington, D. C.
76 Hypertrichosis. A. Brand, New York.
77 Diagnosis of Pulmonary Tuberculosis. H. S. Goodall, Lake Kushaqua, N. Y.
78 Comparison of Types of Continued Fever. W. Allan, Charlotte, N. C.
79 Multiple Neuritis in Child. J. M. Wallfield, New York.
80 Case of Psoriasis. J. Epstein, New York.
81 Tetanus Successfully Treated with Antitetanic Serum. L. J. Friedman, New York.

Northwest Medicine, Seattle, Wash.

March, V, No. 3, pp. 59-88

82 Treatment of Fracture. J. C. Landenberger, Salt Lake City.
83 Long Bone Fractures. A. A. Matthews, Spokane, Wash.
84 Ununited Fracture Treated Twice Unsuccessfully by Lane Plate Method and Successfully by Insertion of Tibial Bone Plate. T. W. Huntington, San Francisco.
85 Clinical Significance of Blood-Pressure. W. E. Whalen, Ogden, Utah.
86 Apoplexy and Blood-Pressure. W. House, Portland, Ore.
87 Municipal Control of Tuberculosis. R. M. Smith, Seattle, Wash.
88 Urethra and Bladder Irrigation. H. W. Howard, Portland, Ore.

Surgery, Gynecology and Obstetrics, Chicago

March, XVI, No. 3, pp. 233-340

89 *Surgery of Spleen. W. J. Mayo, Rochester, Minn.
90 Pathology of Splenomegaly: Study of Operative and Autopsy Material from Mayo Clinic. L. B. Wilson, Rochester, Minn.
91 *Extended Abdominal Radical Operation for Cancer of Uterus. W. Weibel, Vienna.
92 *Radical Abdominal Operation for Cancer of Uterus. J. C. Clark, Philadelphia.
93 *Radical Operation for Cancer of Uterus. T. S. Cullen, Baltimore.
94 *Cautery in Radical Treatment of Cancer of Cervix. X. O. Werder, Pittsburgh.
95 Extended Vaginal Operation for Cancer of Cervix Uteri. G. Gellhorn, St. Louis.
96 *Results After Wertheim Operation for Carcinoma of Cervix of Uterus. J. C. Neel, Baltimore.
97 *Intratracheal Ether Anesthesia. S. Robinson, Clifton Springs, N. Y.
98 Seminal Calculi Simulating Nephrolithiasis. C. S. James and J. W. Shuman, Centerville, Iowa.
99 *Results of Radical Abdominal Operation for Cancer of Uterine Cervix. J. A. Sampson, Albany, N. Y.
100 Skiagraphic Demonstration of Vesical Tumors. H. A. Kelly and R. M. Lewis, Baltimore.
101 General Plastic Peritonitis. W. R. Cubbins and W. J. Marvel, Chicago.
102 *Relation Between Sarcoma and Myoma of Uterus and Its Bearing on Roentgenotherapy of Uterine Myomas. J. R. Miller, Hartford, Conn.
103 *Two Cases of Cervical Rib and Operative Measure to Prevent Recurrence of Symptoms. C. H. McKenna, Chicago.
104 Lateral Intestinal Anastomosis; Modification of Ferguson-Grant Method. R. C. Turck, Jacksonville, Fla.
105 *New Obstetric Rubber Dilating Bag. F. L. Good, Boston.
106 Rupture of Uterus. B. C. Hirst, Philadelphia.
107 After-Treatment of Suprapubic Prostatectomy. G. Kolischer, Chicago.
108 Treatment of Tuberculous Joints. J. L. Porter, Chicago.

89. **Surgery of Spleen.**—In twenty-seven cases of splenectomy done by the Mayos there were two operative deaths (splenic anemia). The clinical diagnoses were: splenic anemia (5 showing Banti's syndrome), 18 cases; wandering spleen (recovered), 2 cases; tuberculosis (died in four months), pernicious anemia (?) (unimproved 2½ years) and cirrhosis of liver (death within six months, ascites), 1 case each; infectious (?) splenomegaly 4 cases. Pathologic findings in cases of splenic anemia: lymphoid hyperplasia (lymphoma (?) 1; lymphosarcoma 1), 2 cases; endothelial proliferation (Gaucher type), 3 cases; chronic diffuse splenitis, 13 cases.

91. **Operation for Cancer of Uterus.**—Of 675 patients, 380 are now, at the end of five or more years since the operation, available for criticism of the value of Wertheim's method. During the same time 863 patients with cervix cancer were examined, of which thirty-six refused the proposed operation, 447 were inoperable and 380 were subjected to the radical operation. Eight of these 380 died from intercurrent diseases, and 160 were well and free from recurrence at the end of five years. With these results, Weibel says that the radical abdominal operation for cancer of the uterus cured permanently a

fifth of all the patients examined in the clinic; it cured permanently 43 per cent. of all operated and 53 per cent. of all patients surviving the operation. In the last 175 operations they have been able to reduce the primary mortality to 9 per cent.

92. **Idem.**—From a review of the literature and from personal experience, Clark believes that the radical operation in expert hands, notwithstanding its high primary mortality, has given the greatest percentage of permanent cures of any therapeutic procedure thus far suggested for cancer of the cervix. While this conclusion is true, the general adoption of the operation, in view of its dangers and difficulties, is not advised by Clark until the primary mortality can be reduced to a much lower percentage by a simplification or perfection of details. The abandonment of the extensive glandular dissection is justified, he says, because this detail adds to the hazards and does not sufficiently raise the percentage of permanent cures. The cardinal advantage of the operation lies, first and above all, in the excision of an extensive cuff of vagina and the widest possible removal of the parametrial tissue. There is no middle-of-the-road policy in cancer of the cervix. The surgeon would better perform a simple vaginal hysterectomy or a high amputation of the cervix with extensive cauterization than to attempt the radical operation if he is not prepared effectively to execute its details. The earnest endeavor by many specialists, with the improved ultimate cures in a few hands, offers the hope that a further simplification and perfection of details in this operation may yet make it more generally available.

93. **Idem.**—Having a vivid recollection of the numerous immediate deaths he had encountered following the Wertheim operation, Cullen says he hesitated long before he could make up his mind to attempt to locate the patients that had left the hospital. But when, finally, the work was commenced, and it was found that some patients had enjoyed comparative comfort for one, two or three, or even six years, he felt that the operation had been worth while. And when seven letters came back saying that the patients were well at periods varying from six to thirteen years, and expressing the most profound thanks for what had been done for them, he could not help feeling that the radical abdominal operation is the one destined to yield the best results. This is an operation, however, he concludes, that cannot be lightly undertaken, as it requires the very best efforts of the surgeon.

94. **Cautery in Treatment of Cancer of Cervix.**—Werder reports as at present living and well thirteen patients, 33⅓ per cent., of these, three have lived eight years and more since the operation; three, seven years and more; two, over six years, and five, five years and over. Nine of the survivals were cases of vaginal igni-extirpation, and four combined. This leaves twenty-one patients whose death occurred within five years of operation, including two operative deaths. Of the nineteen patients who survived the operation twelve are known to have had a recurrence, the seat of recurrence being local in two, and in the inguinal, iliac and lumbar glands in ten. Two deaths were due to intercurrent diseases and in five patients cause of death is unknown. Death occurred within one year in seven, in two years in four, in three years in five, in four years in three. Eleven patients were less than forty years of age; of these only one is living at present.

96. **Carcinoma of Cervix of Uterus.**—From a study of sixty-seven cases operated by this method at the Johns Hopkins Hospital, the following conclusions are drawn by Neel: The extensive abdominal removal of all uterine cervical carcinomas is justified where there is any hope of complete excision. An exploratory laparotomy is often necessary to determine whether or not a case is operable. The preliminary catheterization of the ureters is a valuable aid, especially in fat patients, and does not necessarily increase the probability of fistulas or secondary infection of the urinary tract. Preliminary cauterization and disinfection of the primary growth is advisable in all cases. A horizontal lipectomy in obese patients decreases the depth of the field of operation and shortens the time necessary for its completion. All patients should be kept in the Fowler position for several days, unless this is otherwise contraindicated by symptoms of surgical shock. By improvements in the technic of the operation, the primary mortality has been decreased from 28.5 per cent. for the first seven years to 11.7 per cent. for the last five years. Aside from the discovery of the etiologic factor of carcinoma of the cervix of the uterus and its successful elimination, the greatest hope lies in the early recognition and wide excision of the primary growth.

97. **Intratracheal Ether Anesthesia.**—An analysis of 1402 operations in which intratracheal anesthesia was employed prompts Robinson to say that it is a safe method; it is the anesthesia of choice in operations about the head and neck and thorax. The mortality from such operations should be reduced by the use of intratracheal ether. There is no contra-indication at present to its employment in any surgical operation. There are sufficient reasons for stating that operative shock is diminished and that the postoperative recovery is rendered less exhausting in all operations. All recorded forms of apparatus and the several methods of intubation are successful and require but little technical skill for their employment.

99. **Operation for Cancer of Uterine Cervix.**—Basing his views on his own experience, Sampson believes that metastases are present in from one-third to one-half of the operable cases, and that while lymph-nodes which are not readily accessible may be involved as well as accessible ones, the latter are the ones which are most frequently involved, and sometimes the only ones (especially the iliac vessels). Sampson therefore believes that these nodes should be removed when the condition of the patient will permit, and especially in the early cases in which the operative technic is easy and the resistance of the patient is unusually good.

102. **Sarcoma and Myoma of Uterus.**—Sarcoma, Miller says, may occur in about 2 per cent. of all myomatous uteri. The primary mortality of the operative myoma therapy is still about 4 to 5 per cent. A lasting cure of sarcoma of the uterus by the operative treatment can only be expected in 25 per cent. of the cases at most. Considering the advantages of the Roentgen-ray over the operative treatment in regard to assured freedom from fatality, mistakes in the diagnosis of sarcoma amounting to 0.8 per cent. make little difference. When the public learns that not every tumor of the uterus demands operation, but that there are also efficient conservative methods, Miller says, we shall certainly be in a position to get hold of more malignant growths in the curable stage. In view of these facts, he believes there can be no further doubt that a routine operative treatment of myoma of the uterus, for fear of sarcomatous degeneration, need not be carried out.

103. **Two Cases of Cervical Rib.**—McKenna employs a portion of the scalenius medius muscle to cover the upper surface of the denuded first rib, thereby forming a cushion for the brachial plexus and subclavian vessels.

105. **New Obstetric Rubber Dilating Bag.**—Good's bag is mushroom-shaped and has two separate compartments, one for cervical pressure and one for pressure on the lower uterine segment. The compartments are so joined that they give the appearance of but one bag. Each compartment is filled separately.

Tennessee State Medical Association Journal, Nashville

April, V, No. 12, pp. 477-516

109 Transplantation and Grafting of Bone. R. Caldwell, Nashville.
110 Present Status of Cancer. B. B. Cates, Knoxville.
111 Pleurisy. J. C. Overall, Lascassas.
112 Rheumatism. W. A. Oughterson, Nashville.

Vermont Medical Monthly, Burlington

March 15, XIX, No. 3, pp. 53-78

113 Prevention of Measles and Whooping-Cough. C. S. Caverly, Rutland.
114 Death Due to Hemorrhage into Cystic Cavity from Carcinomatous Degeneration of Cystic Tumor. L. H. Gillette, Springfield.
115 Rôle of Insects in Spread of Infectious Diseases. E. H. Buttles, Burlington.
116 Two Cases of Intestinal Obstruction. M. R. Crain, Rutland.
117 Homosexuality: An Attempt at Seduction; Example of Acquired Homosexuality in Prison; Commentary on Prevalence of Inversion in Germany. D. C. McMurtrie.

Washington Medical Annals, Washington, D. C.

March, XII, No. 2, pp. 73-159

118 Another Hypothesis (Spermatic Infection) as to Origin and Prevention of Cancer. A. F. A. King, Washington, D. C.
119 Value of Skiagraphy in Diagnosis of Aneurysm of Abdominal Aorta. C. A. Pfender, Washington, D. C.
120 Perforating Ulcer of Duodenum. D. S. Lamb, Washington, D. C.
121 Luetin Reaction in Syphilis. C. A. Simpson, Washington, D. C.
122 Localization of Intracranial Neoplasm after Decompression. T. A. Williams, Washington, D. C.
123 *Vaccine Treatment of Typhoid: Report of Cases. B. M. Randolph, Washington, D. C.

123. **Vaccine Treatment of Typhoid.**—Six patients with severe typhoid were treated by Randolph by increasing doses of killed cultures of typhoid bacilli. They became afebrile in from nine to eighteen days from the institution of the treatment. The dosage employed was from 200 million to 1,000 million bacilli; the interval three days, in one case two days. Two desperate advanced cases, one with double pneumonia, were uninfluenced by the treatment, and the patients died. One patient in whom vaccine was begun, began to defervesce and on suspension of treatment suffered a relapse. The relapse quickly terminated on resumption of the treatment. One case illustrates an ordinary relapse cut short by the vaccine. The author has the impression that the vaccine, as used above, has a beneficial effect in typhoid, and that this effect is the better the earlier its use is begun. An important fact, determined by this investigation, is that patients suffer less local and constitutional reaction in the height of the disease than in the defervescence. Routine blood-culture is recommended to replace the Widal test as a means of early diagnosis.

Wisconsin Medical Journal, Milwaukee

March, XI, No. 10, pp. 307-338

124 Treatment of Paralysis and Deformities Following Infantile Paralysis. F. J. Gaenslen, Milwaukee.
125 Case of Paralysis with Focal Symptoms. A. Sauthoff, Mendota.
126 Duodenal Motility. P. Eisen, Milwaukee.
127 Christian Science—a Protest. A. N. Kerr, Martell.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Australasian Medical Gazette, Sydney

February 15, XXXIII, No. 7, pp. 143-170

1 Business Side of Public Health Work. J. S. C. Elkington.
2 Organization of Medical Profession. W. B. Dight.

February 22, No. 8, pp. 171-190

3 Case of Hydatid in Scar and in Lung. C. Hall.
4 Splenic Anemia and Splenectomy. T. Ambrose.

March 1, No. 9, pp. 191-210

5 Some Experiences with Salvarsan. J. D. Buchanan.
6 Acute Hydronephrosis of Pregnancy. S. H. Harris.

British Medical Journal, London

March 22, I, No. 2725, pp. 593-644

7 Glycosuria. G. Rankin.
8 *Action of Salicylic Acid and Chemically Allied Bodies in Rheumatic Fever. R. Stockman.
9 *Death by Electric Currents and by Lightning. A J Jex-Blake.
10 Food Requirements of Children. C. Watson.
11 Patients Treated by Radium in Royal Infirmary Edinburgh, During 1912. D. Turner.

8. **Action of Salicylic Acid in Rheumatic Fever.**—The real efficiency of the numerous compounds which have been recommended by manufacturing chemists in rheumatic affections, according to Stockman, depends solely on the amount of salicylic acid which they contain or develop in the body. Methyl salicylate, he says, develops salicylic acid in the body and retains the specific action, while dimethyl-salicylic acid, which does not do so, is inert, and the same holds true in the case of other salicylic compounds.

9. **Death by Lightning.**—Jex-Blake states that persons struck and apparently killed by lightning should at once be given plenty of fresh air, their clothes should be loosened and artificial respiration by Schafer's or Sylvester's method should be applied and should be continued until either recovery occurs or cooling of the body and rigor mortis show conclusively that death has taken place.

Clinical Journal, London

March 5, XLI, No. 22, pp. 337-352

12 Mucocele of Gall-Bladder. W. M. Eccles.
13 Relief of Sick and Wounded in War. F. M. Sandwith.

March 12, No. 23, pp. 353-368

14 Angina Pectoris. R. O. Moon.
15 Pharyngeal Phlebitis. W. Stuart-Low.
16 Relief of Sick and Wounded in War. F. M. Sandwith.

March 19, No. 24, pp. 369-384

17 Treatment of Scoliosis. E. M. Little.
18 Cancer of Tongue. C. Rowntree.
19 Causes and Avoidance of Abdominal Rigidity Under Anesthesia. J. D. Mortimer.
20 Relief of Sick and Wounded in War. F. M. Sandwith.

Dublin Journal of Medical Science

March, III, No. 495, pp. 161-235

21 Mental Deficiency Bill and Its Proposed Extension to Ireland. W. R. Dawson.
22 Case of Juvenile Tabes. T. G. Moorhead.
23 Rheumatism in Children. J. H. Crane.

Journal of Obstetrics and Gynecology of British Empire, London

March XXIII, No. 3, pp. 129-192

24 *Red Degeneration of Uterine Fibromyomas. J. L. Smith and W. F. Shaw.
25 Nature of So-Called Ligaments of Mackenrodt. M. Moritz.
26 Endothelioma of Undescended Testis in Male Pseudohermaphrodite. T. Wilson.
27 Case of Pseudohermaphroditism. C. Martin.
28 Case of Fibrosarcoma of Ovary. G. Fitzgibbon.
29 Early Case of Sarcoma Uteri. B. Whitehouse.
30 Fibromyoma of Uterus Presenting Unusual Characters. B. Whitehouse.
31 Torsion of Spleen Simulating Ovarian Tumor: Splenectomy: Recovery. B. Whitehouse.

24. **Uterine Fibromyomas.**—The authors make the following points in their paper: Uterine fibromyomas of a red color are divided pathologically into two classes—thrombotic and angiomatous. The thrombotic are of a deep red color which is not lost in Kaiserling solution, nor is there any free blood on a cut surface nor in the tissues. The thrombotic exhibit various degrees of thrombosis; the early ones showing only a collection of thin threads around the walls of a few vessels, while the late ones have all the vessels plugged with them. The thrombotic have clinical symptoms of abdominal pain, tender tumor, rapid enlargement of the tumor, general ill-health, rise of temperature and pulse-rate; these symptoms may occur singly or in combination. All the thrombotic fibromyomas contain a large quantity of fat due to the retardation of the circulation by the thrombosis of the blood-vessels. The red color of the tumors is due to the hemoglobin staining associated with the action of the accumulated lipoids. The majority of the specimens in this group contain a large number of thin-walled vessels; in this respect the two groups are similar. The angiomatous group contain large numbers of thin-walled vessels. These vessels are filled with red blood-corpuscles; in some specimens the congestion is further advanced and free blood is found in the tissues (hemorrhage). The color of these specimens is bright red and tends to fade in the preservative fluid; it is due entirely to the large amount of blood in the tissues and not to hemolysis and hemoglobin staining. The patients do not have any clinical symptoms other than bleeding and a feeling of weight due to the presence of the tumor.

Journal of Tropical Medicine and Hygiene, London

March 15, XVI, No. 6, pp. 81-96

32 *Sleeping Sickness in Portuguese Congo: Apparent Cures. M. Gamble.
33 Contribution to Study of Bilharziasis. I. Bandi.

32. **Sleeping Sickness in Portuguese Congo.**—During the nine months, December, 1908, to August, 1909, Gamble had forty-one unselected patients under treatment for trypanosomiasis,

in whom the diagnosis was made from the microscopic examination of fresh gland juice, and the main treatment consisted in no fewer than 100 gr. of atoxyl, which was given subcutaneously in the forearms, usually in doses of 4 gr. daily. Nineteen patients are alive and well. Thirty-five patients had no more atoxyl after August, 1909, but three had secondary treatment till December, 1909. Nineteen are dead, though one died after two years of good health, and possibly from other causes. Sixteen are alive and well. Six patients had no treatment from August, 1909, to October, 1910. The subsequent main treatment consisted of atoxyl, 7½ gr., twice weekly, in the gluteal region.

Lancet, London

March 22, I, No. 4673, pp. 803-868

34 Intrathoracic Aneurysm. F. de H. Hall.
35 *Genital Functions of Dustless Glands in Female. W. B. Bell.
36 *Bastedo's Sign: Symptom of Chronic Appendicitis. A. F. Hertz.
37 Patients Treated by Radium in Royal Infirmary, Edinburgh, During 1912. D. F. D. Turner.
38 Hyperextension and "Back-Fire" Injuries of Wrist. C. S. Wallace.
39 *Ionic Medication in Herpes Zoster. Ophthalmicus. A. Macnab.

35. Genital Functions of Female Ductless Glands.—The facts Bell brings forward in this lecture illustrate the influence of the ovaries on the uterus, on the general metabolism, and on the rest of the principal organs of internal secretion. With regard to the influence of the ovary on the uterus he shows that to some extent the implantation of the fertilized ovum is assisted—possibly by the secretion of the corpus luteum. Further, the activity of the uterus is maintained and regular contractions are promoted, probably by the secretion of the interstitial cells. In the general metabolism the total ovarian secretion appears to promote the excretion of calcium and the retention of phosphorus. And lastly, total ovarian insufficiency arouses increased activity in most if not in all the other remaining ductless glands.

36. Bastedo's Sign.—Bastedo's test depends on the production of pain and tenderness in the right iliac fossa on inflation of the colon with air. For this purpose Hertz uses an ordinary rubber rectal flatus tube, which is connected by a short piece of glass to a pump, such as that used with the sigmoidoscope. Bastedo recommends that the tube should be inserted 11 or 12 inches into the rectum, but, as the experiments of Goodhart, Hertz and others have shown that a tube can very rarely be passed beyond the pelvi-rectal flexure, which is never more than 6 inches from the anus, there is no advantage in introducing it further than just within the ampulla of the rectum—about an inch and a half from the anus. After the tube has been inserted the patient lies flat on his back, and the pump is brought up between his legs. On now slowly pumping air through the tube the colon is seen to gradually distend, and after a certain quantity has been introduced an individual who is not suffering from appendicitis feels a diffuse discomfort in the lower part of the abdomen, but there is no pain unless an excessive quantity of air is introduced, in which case it is not more marked on one side than the other. There is also no tenderness.

Patients suffering from appendicitis, however, generally experience pain in the right iliac fossa, even if the pain has hitherto been confined to the epigastrium or the neighborhood of the umbilicus. In one of Hertz's cases, in which a diseased appendix was subsequently removed, pain was only felt some hours later. Whenever pain is produced, and in some cases in which no pain has been felt, well-marked tenderness is found in the neighborhood of McBurney's point. When tenderness has already been observed in this situation it is always much increased by inflation, but it is also found in cases in which no tenderness has hitherto been noticed in spite of frequent examinations. In a number of instances Hertz has observed a further exceedingly characteristic symptom; the pain is referred to the epigastrium when pressure is exerted in the right iliac fossa after inflation, the epigastric pain being identical in character with that which formed the chief symptom of which the patient complained.

Hertz has only obtained a positive Bastedo's sign in appendicitis, the appendix having always been found diseased at the subsequent operation. In numerous cases in which the colon has been inflated and no pain or tenderness produced, the appendix has later been found to be healthy, and in some cases disease has been discovered in the female pelvic organs, the gall-bladder, or the kidney. Hertz has only employed the test in cases of suspected chronic appendicitis and in patients who have recently recovered from a doubtful attack of acute appendicitis.

39. Ionic Medication in Herpes Zoster Ophthalmicus.—The drug used by Macnab has been sulphate of quinin, applied by means of the positive current over the whole area affected, for fifteen to thirty minutes, with a current of 1-1.5 milliamperes per square inch of surface. In general two applications at an interval of from seven to ten days were made to the skin area, and the conjunctiva was treated separately for a shorter time and with less current. The results have been that the neuralgic pains and the disturbed sensibility of the part have cleared up almost at once. The iritis disappeared and the sensation of the cornea and conjunctiva returned. As there is in every case some destruction of tissue, Macnab points out that a complete return to the normal cannot be expected, but so far as such appeared possible this form of treatment seems to provide a cure for this distressing affection.

Medical Press and Circular, London

March 5, XCV, No. 3852, pp. 241-266

40 Efficient Ambulance Service for Accidents and Other Casualties in Streets and Public Places in London. W. J. Collins.
41 Mental Deficiency Bill and Its Proposed Extension to Ireland. W. R. Dawson.
42 *Frequency of Perforation in Duodenal Ulcer: Report of Seven Cases. A. J. Evans.
43 Diagnosis of Acute Abdominal Conditions in Children. E. Cautley.

March 12, No. 3853, pp. 267-296

44 Pneumonia and Empyema in Children. J. W. Carr.
45 Allyl Sulphid in Treatment of Tuberculosis. W. C Minchin.
46 Detrimental Effect of Present System of Hospital Administration on Interests of Medical Profession. J. H. Dauber.
47 Man's Posture: Its Evolution and Diseases. A. Keith.

March 19, No. 3854, pp. 297-320

48 Presbyopia and Its Treatment. E. Clarke.
49 Case of Primary Fibrosarcoma of Ovary. G. Fitzgibbon.
50 Physiology of Milk Secretion. E. A. Schüfer.
51 Carcinoma of Rectum. F. M. Caird.
52 Man's Posture: Its Evolution and Diseases. A. Keith.

42. Frequency of Perforation in Duodenal Ulcer.—During a period of twelve months Evans operated on seven patients with perforation in well-marked duodenal ulcer, all of them males of ages varying from 23 to 42. Six of the cases were of the acute perforating type, while the seventh should be classed as sub-acute perforation. In three cases free lavage was employed. In these the abdominal cavity was grossly contaminated by stomach contents, i. e., particles of undigested and decomposing food; the abdomen, in each case, was systematically douched out with warm saline after counter-openings had been made above the pubes and in the loins. In the other cases the infected area was gently wiped out with dry sterile gauze, and the peritoneum left to perform its own toilet. Murphy's method of proctoclysis was used in all during the after-treatment, and the Fowler position adopted. Whether gastro-enterostomy is justifiable in addition to closure of the perforation, Evans believes, is a matter of debate. Personally, he does not think it justifiable except in cases of sub-acute perforation, or when following the invagination of the ulcer.

The objections given to performing gastro-enterostomy are: 1. The presence of perforative peritonitis possibly interfering with the healing of the anastomotic junction between stomach and intestine. 2. The danger of infecting the lesser peritoneal sac, which is necessarily opened in performing the posterior operation. 3. The additional shock to a patient in an already collapsed condition. 4. Post-operative or anesthetic pneumonia is more likely to occur after the prolonged operation. The ideal method in Evans' opinion is to postpone gastro-enterostomy until a later date. The difficulty, however, is to persuade the patient when feeling in good health that gastro-enterostomy is a safeguard for the future. The invagination alone seems to cure the ulcer completely, and in most cases to restore the patient to robust health.

Archives Générales de Chirurgie, Paris

February, VII, No. 2, pp. 129-256

53 Teratomas on Back of Head. (Les tératomes de la région occipitale.) J. P. Tourneux.
54 *Polyneuritis of the Legs Following Tubal Abortion and Local Ischemia in the Legs. E. Duhot, R. Pierret and E. Verhaeghe.
55 *Autoplastic Restoration of Cheek. (Sur l'autoplastie de la région génienne.) H. Lefèvre.

54. **Polyneuritis From Local Disturbance in Blood-Supply.**—In the case reported the polyneuritis developed in both legs with trophic changes in consequence of interference with the circulation in the legs during measures to keep the spark of life alive in a previously healthy woman of 24 almost moribund from the hemorrhage of a tubal abortion. The operation was brief but she ceased to breathe as she was replaced in bed. The assistants lifted up the arms and legs and this drained the blood back into the trunk and respiration started up spontaneously. The limbs were kept raised, lying loose in padded splints, to maintain this autotransfusion. The patient complained of numbness in her legs but as the toes were warm no importance was paid to her complaints. The splints were gradually lowered and were discarded the fifth day. Two days later severe pains developed in both feet and both legs were paralyzed below the knees. The intense general anemia, local ischemia and low blood-pressure easily explain the injury to the nerve terminals. It was not severe enough to entail gangrene, and the patient gradually recovered the use of her legs although four months later she is still unable to walk without support, her feet being still crippled.

55. **Autoplastic Operation on the Cheek.**—Lefèvre states that Chavannaz had extremely satisfactory results in two cases in which he restored the cheek after an extensive mutilating operation for cancer. He drew up a flap from the neck, keeping the raw surface inside. The dreaded suppuration and retraction did not occur, and Lefèvre has repeated the operation on a number of dogs to confirm its practicability. The dogs now open their mouths, eat and bark, apparently normally, so that no one would suspect they had been operated on. The raw surface healed over in from sixteen to thirty days. He gives twenty-five illustrations of the technic and results.

Bulletin de l'Académie de Médecine, Paris

March 4, LXXVII, No. 8, pp. 137-168

56 Epidemic of Diphtheria Traced to Bread Supply. (Epidémie de diphtérie propagée par le pain.) Mosny.
57 Artificial Pneumothorax in Treatment of Pulmonary Tuberculosis. Achard.
58 From the Seat of War. (La chirurgie dans la guerre des Balkans.) Monprofit.

Bulletins de la Société de Pédiatrie, Paris

February, XV, No. 2, pp. 41-105

59 Sweetened Condensed Milk Arrests Infants' Vomiting; Twenty Cases. (Etude des propriétés anti-émétiques du lait condensé sucré.) G. Variot, Lavaille and Rousselot.
60 Serotherapy by the Rectum Occasionally Effectual. Guinon.
61 *Thirteen Years of Thyroid Treatment in a Case of Myxedema. Zuber.
62 *Adrenal Origin of Periodical Vomiting. (Sur l'origine surrénale des vomissements dits acétonémiques.) E. Terrien.
63 Severe Anaphylactic Shock from Diphtheria Antitoxin. Hallé and M. Bloch.
64 Hemophilic Arthritis Simulating Osteomyelitis. (2 cas d'hémophilie familiale.) H. Méry, H. Salin and A. Wilborts.

61. **Thyroid Treatment of Myxedema.**—Zuber reports the case of a young man who has taken thyroid treatment systematically for thirteen years. At the age of 8 he was the size of a child of 2, and although under the influence of the thyroid treatment then instituted he has developed both physically and mentally, he has never regained those six years he lost, his size and mental standing now being those of a normal, diffident youth of 15. In the discussion that followed his report, Ausset commented on the way in which the myxedematous improve to a certain extent under thyroid treatment and then seem to reach a stationary stage. At this point he has found it useful to combine the extract of other glands with the thyroid treatment; improvement progresses rapidly under the addition of hypophysis extract. Lesné adds epinephrin also, the arterial pressure being generally low in myxedema.

62. **Cyclic Vomiting in Children.**—Terrien has noticed various signs of insufficiency on the part of the adrenals in children presenting uncontrollable periodical vomiting of the so-called acetonemic type. He analyzes three cases of this kind. In the first a child under 4 had had several attacks of the acetonemic vomiting. In the last one from the first the prostration was extreme and after five or six days there was great emaciation but no fever and nothing to suggest meningeal derangement. The pulse was small, the abdomen hollowed in and supple. The child complained of pain in the abdomen and limbs without exact localization; the breath smelt quite strongly of acetone, and the child died suddenly as it made a slight effort. Necropsy showed no traces of appendicitis but the liver was rather large and slightly fat. The adrenals were not examined. The second patient was a child of 3 and an attack of incessant vomiting was accompanied by the acetone odor, apathy and small, rapid pulse. The adrenal "white line" was pronounced. Ten drops of epinephrin, 1/1,000, were given in an enema and the child stopped vomiting at once. Two months later the child had bronchitis but was still lively when the odor of acetone became perceptible and the "white line" was found pronounced again but there was no lassitude. The next day vomiting came on with much depression but all symptoms subsided promptly under epinephrin enemas. In a third case a child of 8 has had for two years recurring attacks of incessant vomiting for two or three days about every three months, with great depression and odor of acetone. The "white line" was occasionally manifest but not at every attack. No measures were able to ward off these attacks until during the last six months a little epinephrin has been given systematically twice every month in prophylaxis. Since this has been done there has been no recurrence of the vomiting. The features of the cyclic vomiting which suggest the participation of the adrenals are in particular the marked asthenia from the first, the "white line" and the tendency to sudden death. Griffith, Myers, Holt and Langmead have reported sudden death in cases of periodical vomiting, and the latter found a hemorrhagic focus in one adrenal in his case. Sergent and Khoury also reported last year the success of epinephrin in arresting uncontrollable vomiting of pregnancy and in typhoid fever. Guinon called attention in 1907 to adrenal pseudoperitonitis, the manifestations of the adrenal insufficiency simulating acute appendicitis with peritonitis.

Journal de Médecine de Bordeaux

March 9, XLIII, No. 10, pp. 147-158

65 Antitoxin in Treatment of Diphtheria. (Quelques réflexions sur la pratique de la sérothérapie antidiphthérique.) A. Franklin.

Lyon Médical, Lyons

March 2, XLV, No. 9, pp. 434-492

66 *Chronic Jaundice from Old Tuberculous Peritonitis. F. Mouisset and J. Gaté.

March 9, No. 10, pp. 493-540

67 Physiology of Speech. (Existe-t-il à proprement parler des images motrices d'articulation?) J. Froment and O. Monod.

March 16, No. 11, pp. 541-604

68 *Lesions of the Intestines with Tuberculosis of the Ovary or Tube. (Rôle des lésions intestinales dans le pronostic opératoire des annexites tuberculeuses—lésions du grêle surtout.) L. Desgouttes and R. Olivier.
69 Operation Bestowing Vision on Child Born Blind. (Histoire de la guérison d'un aveugle-né.) Moreau. Commenced in No. 9.

66. **Chronic Jaundice Caused by Tuberculous Peritonitis.**—Mouisset and Gaté describe a case of jaundice persisting for fifteen months. The symptoms caused them to hesitate between cancer and lithiasis and an operation was performed which showed neither, but demonstrated the presence of extensive peritoneal adhesions with contraction almost to the point of obliteration of the bile ducts. Careful study of the case convinced them that this was due to an old tuberculous peritonitis, in which the inflammatory process had involved the bile ducts. It is described as illustrating the necessity of extreme care in diagnosing similar conditions.

68. **The Importance of Intestinal Lesions in the Prognosis of Pelvic Tuberculosis.**—The prognosis in operation for tuberculosis of the tubes and ovaries depends almost entirely on the extent to which the intestines have become involved. Where there are no intestinal adhesions, the operation is comparatively simple and safe. Where only the large intestine, rectum and sigmoid flexure are involved, all adhesions both to the pelvic organs and to the peritoneum should be freed with the greatest care and vaginal drainage established. If the small intestine is involved the whole mass should simply be freed from the pelvic organs and the latter removed, no attempt being made to separate the small and large intestine, unless there is evidence of mechanical interference with intestinal function. If there is, the part of the intestine involved should be resected.

Presse Médicale, Paris

March 12, XXI, No. 21, pp. 197-204

70 Variations in Cholesterin Content of Blood Under Vaccination Against Typhoid. (Variations de la cholestérinémie au cours de la vaccination anti-typhoique.) Rouzaud and Cabanis.

Semaine Médicale, Paris

March 19, XXXIII, No. 12, pp. 133-144

71 Comparison of the Pulsation in the Esophagus and in the Jugular Vein in a Case of Primary Tumor of the Left Auricle. L. Bard.

Beiträge zur Klinik der Tuberkulose, Würzburg

XXVI, No. 2, pp. 124-243. Last indexed March 22, p. 948

72 *Displacement of Heart with Pulmonary Tuberculosis. (Herzverschiebung bei Lungentuberkulose.) F. Oeri.
73 *Roentgenoscopy of Primary Focus in Lung. (Ueber den röntgenographischen Nachweis des primären Lungenherdes bei der Bronchialdrüsentuberkulose.) G. Simon.
74 *Determination of Tubercle Bacilli in Dust. (Nachweis von Tuberkelbazillen im aspirablen Staub.) L. Engelhardt.
75 *Gastric Tuberculosis. (Zur Pathologie der Magentuberkulose.) L. Melchior.
76 *Mechanical Predisposition of Lung to Tuberculosis. (Anomalien des ersten Rippenringes und Lungentuberkulose.) W. H. Schultze.
77 Changes in the Kidneys in the Tuberculous. (Nierenveränderungen bei Tuberkulösen.) F. Leichtweiss.

72. **Displacement of Heart with Pulmonary Tuberculosis.**—Oeri has examined 559 patients in the last three years to determine the influence on the heart of a tuberculous process in the lungs. Omitting the children and those whose tuberculosis was equally advanced on both sides and others whose pulmonary process proved to be of non-tuberculous origin, he tabulates the findings in 413 cases as determined by means within the reach of every physician, thus intentionally refraining from roentgenoscopy and other laboratory methods. He found that the heart was almost invariably drawn up toward the diseased side when the process had reached the shriveling stage. This was particularly marked with a process in the left lung, the heart being more readily movable on the left side. In all but 3 per cent. of the left-sided processes the heart was displaced toward the left while the displacement toward the right with a process in the right lung occurred only in 70 per cent. With cicatricial changes the lung invariably shrinks in size but collapse occurs only when special conditions invite it. Shriveling occurs more readily in the left than in the right lung as the diaphragm and the heart are more movable here; the liver and the attachments of the heart render conditions more stable on the right side. Displacement of the heart occurs so regularly that exact determination of the position of the heart may aid in locating the pulmonary process. Next in frequency of the signs of shriveling of the lung comes the narrowing of the apex-beat field. The lower margin of the lung may be unusually high, possibly fastened. This always drags the heart out of place. With a process in the right lung the heart becomes displaced at first by twisting on its vertical and sagittal axes, and it seems to spread toward both sides or only toward the right while the apex-beat is farther outward and upward or becomes entirely lost. Later the entire mass of the heart becomes displaced and the heart outline moves toward the right. With traction from the left lung the entire mass of the heart becomes displaced from the start and the diameter of the area of dulness remains the same. The displacement is often combined with a twisting on the vertical axis so that the apex beat may still fall within the nipple line. The accentuation of the second pulmonal sound is often the consequer merely of a mechanical hindrance in the pulmonary artery, t result of dragging on the artery by the shriveling lung or kinking from the torsion of the heart. It should not regarded as a sign of hypertrophy of the right ventricle tuberculous patients. During sanatorium treatment, possil as a result of it, all the signs of shriveling of the lung becor more pronounced. In his measurements Oeri used fing breadths, and urges others to study the signs of shriveling the lung as an important aid in the estimation of the case. knows of only one similar study of the effect of pulmona processes on the heart (Pottenger).

73. **Roentgenoscopy of Primary Focus in Lung.**—Sim gives roentgenograms which show a small, sharply outlin focus in one lung in three cases of tuberculous bronchial lymp nodes. He is convinced that this focus in the lung was t source of the glandular disease.

74. **Tubercle Bacilli in Dust.**—Engelhardt has worked out practical method for determining the presence and numbers tubercle bacilli in aspirable dust. The dust is taken up in vacuum cleaner with a filter which retains in water t aspirable dust; the dust is then treated with antiformin to k off all other germs and the sediment is injected into t abdominal cavity of guinea-pigs.

75. **Tuberculosis of the Stomach.**—Melchior examined t stomach for tuberculous lesions in 1,459 cadavers, including S adult consumptives, and found ulcerative tuberculous process in the stomach of six of this latter group. There had been symptoms of the stomach involvement during life in any of t six. The stomach lesions were of an acute nature in all.

76. ***Mechanical Predisposition to Pulmonary Tuberculosis.*** Seven years have passed since Hart's work appeared on t mechanical predisposition to tuberculosis afforded by co genital anomalies in the upper aperture of the thorax, aft Freund had called attention to this factor and proposed modify the shape of the thorax by chondrotomy. Schultze h examined recently 105 cadavers of consumptives and has be surprised to find that very few of them had any traces of t mechanical conditions which Freund and Hart regard as pr disposing to and almost inevitable with pulmonary tuberculos He devotes eight pages to tabulation of the details in 1 cases, his conclusions being all negative in regard to t importance of these mechanical conditions as having anythi to do with the development of tuberculosis in the lungs.

Berliner klinische Wochenschrift

March 10, L, No. 10, pp. 429-476

78 *Importance of Bovine Bacilli for Human Beings. (Ueber d Bedeutung der Rinderbacillen für den Menschen.) J. Or
79 *Treatment of Inoperable Cancer or After Operations. (I nichtoperativen Behandlungsmethoden der bösartigen Ne bildungen.) R. Werner.
80 *Protracted Endocarditis. (Beitrag zur Endocarditis lenta der Hand von 3 Fällen.) J. Lewinski.
81 *Technic for Salvarsan Injections. (Ueber Aqua destillata z Salvarsanbereitung.)* R. Schramm.
82 Influenza 855 A. D. (Die älteste Influenza-Epidemie in Persi und Mesopotamien.) E. Mittwoch.

78. **Importance of Bovine Bacilli for Human Beings.**—Or here gives his reasons for the "Oho" with which he greet Klemperer's statement that bovine bacilli are harmless f human beings in the same way as human bacilli are harmle for cattle. The incident occurred in the discussion followi Friedmann's report on his turtle-bacilli method of treati tuberculosis. Orth says that the problem of the origin phthisis is the problem of the development of the first tube culous focus in the lung. Tubercle bacilli bearing the cha acters of the bovine type are found in about 10 per cent. of a tuberculous children—less frequently in adults—not only in t mild and local but in the severe local and generalized, som times fatal, types of tuberculosis. Orth continues that in co sequence of the variability of the bacilli we must reckon wi the possibility that the apparently human type may be trac back to the bovine type, and thus the circle of action of t bovine bacilli may be much more extensive than has hither been deemed probable. We must also reckon with the possib ity—which there is much evidence to sustain

infection in early childhood entails a predisposition to pulmonary phthisis later, when new infection occurs. He adds that although this increase in the importance of bovine bacilli in these last two directions may be regarded as more or less hypothetical, yet it certainly sustains the view which the relative frequency of bovine tuberculosis in man suggests, namely, that measures to eradicate bovine tuberculosis must not be neglected. Although human tuberculosis could never be exterminated by extermination of bovine tuberculosis alone, yet it is beyond any question of doubt that tuberculosis among human beings can never disappear as long as new bovine tubercle bacilli can be transmitted from animals to man. He emphasizes that the fight against bovine tubercle bacilli must not be left to the veterinarians, stock raisers and cattle owners, for the matter affects not only live stock but also humanity, and care for the health of human beings is the physician's task. Public health officials should take the necessary general measures for prophylaxis of infection of man from cattle, but every family physician should also watch over the family to protect its members against this danger, especially the children. The campaign should be directed mainly against human tubercle bacilli, but the danger from bovine bacilli should never be overlooked. (For discussion on above, see Berlin Letter in The Journal, April 12, p. 1167.)

79. **Treatment of Inoperable or Recurring Cancer.**—Werner writes from the cancer hospital at Heidelberg where all kinds of treatment have been given extended trials to emphasize the advantages of combining various measures in treatment of inoperable or recurring cancer and in prophylaxis of recurrence. Arsenic to act on the general condition is commended as an adjuvant that should never be neglected whatever other treatment is applied, but it can not be relied on alone to cure malignant disease. The tumor may retrogress surprisingly under some preparation of arsenic, but with the dosage practicable in the clinic there is always a dangerous focus left. The best tested and the most reliable method of treatment to date is radiotherapy, especially a combination of Roentgen exposures and radio-active substances. This sometimes transforms an inoperable tumor so that its removal becomes possible. This is most liable to happen with mammary carcinoma, superficial cancers, malignant lymphomas and superficially located fascia sarcomas. The best results with these growths have been obtained by two series of Roentgen exposures, as intensive as possible, in the course of three or four weeks. If the tumor retrogresses under this it should be removed at once. If not, then the case is not adapted for this method of treatment. Roentgen exposures are liable to ward off recurrence when applied after the operation, especially when the rays can be applied to the open wound. Radio-active substances can be applied to the surface or be introduced into the throat, vagina or rectum or into the depths of the tumor. Intravenous injection of the radio-active substances seeks to follow on the trail of eventual metastases and exert radio-active influence on the tumor itself by way of the blood. Werner's experience has shown that lengthening the course with smaller doses is not equivalent to intensive dosage even over a short period. Many cases of failure can be ascribed to inadequate dosage. In 171 cases of inoperable or recurring cancer under treatment during the last half of 1912, 12 per cent. of the patients were essentially and 16 per cent. considerably improved. The 122 others derived no appreciable benefit or have been lost trace of. Werner warns that certain combinations of methods of treatment may do direct harm, especially when each method has a tendency to induce fever and collapse. Forewarned against this, however, until something better is discovered, the best prospects lie in the combination of several methods of treatment, radiotherapy, chemotherapy and immunotherapy, supplemented by cautious toxin or ferment treatment.

80 and 95. **Protracted Endocarditis.**—Lewinski reports three cases of Schottmüller's endocarditis lenta. Two of the patients had had acute articular rheumatism and all were very anemic and growing constantly weaker. All had mitral insufficiency and there was nephritis toward the last in one case. The patients were women between 22 and 30. Other features of the cases were occasional development of numerous petechiae and slight swelling of the joints which never went on to suppuration. Retinal hemorrhages were noticed in one patient. There were no cerebral symptoms, and scarcely any indication of chills or septic fever, the temperature keeping merely slightly febrile. The diagnosis was confirmed by discovery of the *Streptococcus viridans* in the blood. No case of recovery is known, but vaccine treatment has given material improvement in some cases, and if instituted early enough might transform the clinical picture.

Lossen also reports three cases but his patients were males, two boys of 15 and a man of 32. All had had acute articular rheumatism leaving a valvular defect. The endocarditis developed insidiously, the symptoms suggesting for weeks merely long continued influenza, not confining the patients to the house. When they finally apply to a physician and he orders them to stay in bed, the subjective symptoms generally subside but the fever keeps up for months. The temperature may be normal mornings and go up in the afternoon or evening. Enlargement of the spleen with the symptoms on the part of the heart should suggest this form of endocarditis, especially when the pulse is accelerated out of proportion to the fever. Hidden suppuration or a tuberculous focus somewhere is generally thought of first when examining such patients. No treatment has proved effectual but much can be done to relieve by symptomatic measures, keeping up the strength and tiding the heart along.

Deutsche medizinische Wochenschrift, Berlin

March 13, XXX, No. 11, pp. 489-536

83 *The Hyomandibular Fistula. (Eine neue Form der angeborenen Halsfistel.) H. Küttner.
84 Isolation of the Active Substance of the Hypophysis. H. Fuhner.
85 *The Incubation Period with Acute Poliomyelitis. (Die Länge der Inkubationszeit bei der akuten Kinderlähmung—Heine-Medinschen Krankheit.) C. Schoug.
86 *Phosphorus in Treatment of Epilepsy. P. Leubuscher.
87 *The Lymphatic Diathesis Predisposes to Gastric Ulcer. (Ulcus rotundum ventriculi und Lymphatismus.) E. Stoerk.
88 Tubercle Bacilli in the Urine with Tuberculosis of the Testicle. E. Löwenstein.
89 Total Gastrectomy. (Ueber totale Entfernung des Magens.) E. Unger.
90 Staining Technic for Diphtheria Bacilli. H. A. Gins.
91 Copper in Treatment of External Tuberculosis. (Zur Kupferbehandlung der äusseren Tuberkulose.) A. Strauss.
92 Psoriasis [illegible] st die Psoriasis ein Hautsympt[illegible] er Erkrankungen oder eine echte [illegible] H. Huber.
93 Reinfection with Syphilis after Salvarsan; Seven Cases. Antoni.
94 Roentgen [illegible] int of General Practitioner. (Was s[illegible] über das X-Erythem wissen?) P. F. Becker.

83. **Hyomandibular Fistula.**—The patient was a girl of 8 and the fistula was of congenital origin. It opened 2 cm. below the ear, the other end opening into the outer ear, and it was successfully excised.

85. **Incubation of Acute Poliomyelitis.**—Schoug's experience does not sustain the assumption of insect transmission of this disease. Direct infection from the mouth or nasal secretions seemed more probable. The incubation period in nine cases reported in detail was four days in some, in others up to the tenth day. The occurrence of the disease in winter when insects are less common is a special argument against insect transmission.

86. **Phosphorus in Epilepsy.**—Leubuscher thinks that it is now established beyond question that auto-intoxication, originating in the intestines, is the main factor in bringing on an epileptic seizure. After this factor has received due attention, he advocates giving phosphorus as this has such a marked effect in tetany. He has been giving it systematically since early in 1911, in 10,000 parts oil. He gives the details of the nine very severe cases of old epilepsy in which he has applied this method of treatment. The patients had long been in his charge and the number of seizures was reduced by 30 or 40 per cent. in three cases, and by about 65 per cent. in two others. In three others the improvement was less striking and in one patient the number increased from about twelve to

fourteen seizures a month. The patients were between 17 and 30 and the epilepsy dated from childhood in most. The greatest benefit seemed to be realized in the severer cases; in one the seizures dropped from 119 to 73. The phosphorus was given for fifteen months in six cases.

87. **Predisposition to Gastric Ulcer.**—Stoerck comments on the facts—which he regards as well established—that constitutional factors are involved in the development of gastric ulcers, and that these ulcers are of more frequent occurrence than hitherto recognized, as necropsy often reveals traces of old ulcers of this kind with no history of clinical manifestations during life. His experience and research have shown further a distinct connection between the lymphatic constitution and the development of a gastric ulcer. He has encountered this connection in thirty cases and relates the details of some of them here. By the term lymphatism he means the status thymicolymphaticus, among the principal characteristics of which are the atypical growths of hair on head and body, the length of the limbs in comparison to the body, hypertrophy of tonsils and adenoid tissue, and possibly of all the palpable lymph-nodes, small heart, narrow arteries, low blood-pressure, nervous and psychic instability and a high voice. The lymphatics in the stomach share in the general tendency to hypertrophy and to respond to certain irritations by mammillation. The protruding follicles and the mammillated surface produce mechanical conditions inviting ulceration as particles of food are detained by the rough surface and become a source of irritation. The circulation in the gastric mucosa above suffers also. An additional factor is afforded by the peculiar lack of resistance to bacterial invasion. Persons of this lymphatic temperament are exceptionally prone to tonsillitis, etc., and typhoid and pneumonia are inclined to run an unfavorable course. Any ulceration in the stomach of mechanical origin is thus particularly liable to become complicated with secondary infection. Constitutional inferiority of the autonomous nervous system, especially the vagus, seems to afford a predisposition for gastric ulcer, judging from Yzeren's experimental work. Still another factor is the characteristic narrow lumen of the vessels and the consequent defective nourishment of the parenchyma. There seems to be little doubt that this constitutional anomaly of lymphatism in many, if not in most, cases prevents the healing of a casual gastric ulcer, so that it is kept up as a chronic lesion, when in a normal organism the defensive forces would rally and the ulcer soon heal under their influence.

Medizinische Klinik, Berlin

March 9, IX, No. 10, pp. 357-396

95 *Protracted Septic Endocarditis. Lossen.
96 Scarlet Fever. (Vom Scharlach) R. Fischl. Commenced in No. 9.
97 Heredity and Insanity. P. Jolly.
98 Symptoms Suggesting Heart Block After Tropacocain Spinal Anesthesia. (Eine Beobachtung von herzblockähnlichen Erscheinungen nach der Lumbalanästhesie.) K. Vogel and A. Kraemer.
99 Physiologic Study of Effect of High Altitudes. (Ueber eine Beziehung zwischen Muskeltonus, Aufmerksamkeit und erschwertem Einschlafen im Hochgebirge.) R. v. Heuss.
100 Special Diets in Hospitals. (Ueber Verpflegung und Diätverordnungen in Krankenhäusern.) N. v. Jagic.
101 Test Apparatus for the Hearing. (Eine neue Methode zur Prüfung des Hörvermögens.) R. Sondermann.
102 Hemolytic Properties of Blood-Serum in Syphilis, Tabes and General Paresis. V. Kafka.
103 Necessity for Specific Treatment for Syphilitics Contemplating Matrimony if the Wassermann Reaction is Positive. (Ueber den Heiratskonsens bei Geschlechtskranken.) E. Brodfeld.

95. See Abstract 80.

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

March, XXVII, No. 3, pp. 289-416

104 Technics for Artificial Delivery. (Stellung der verschiedenen Kunst-Geburten inbezug aufeinander.) P. C. T. v. d. Hoeven.
105 *Disturbances of Carbohydrate Metabolism in Pregnancy and Eclampsia. (Zur Frage der Leberinsuffizienz.) W. Benthin.
106 Pseudomyxoma in the Peritoneum Involving Ovaries and Appendix. B. Rathe.
107 Roentgenotherapy in Gynecology. F. Heimann.
108 *Research on the Symptoms of the Menopause. (Klinische und experimentelle Beiträge zur Frage der sogen. Ausfallserscheinungen.) E. Mosbacher and E. Meyer.

105. **Disturbances of Carbohydrate Metabolism in Pregnancy and Eclampsia.**—Carbohydrate metabolism is as a rule very little altered in normal pregnancy. The only condition in which it is noticeably disturbed is in eclampsia, and here it is manifested by a decided increase in the sugar content of the blood. Benthin believes, however, that this increase is due to the convulsions and not to abnormal liver function. In so far as it cannot be attributed to the convulsions, he believes that the ductless glands are at fault, rather than the liver, as it is well known that hyperfunction of the adrenals causes glycosuria.

108. **Artificial Menopause.**—Mosbacher and Meyer studied sixty-seven cases before and after operation to determine the effect of removal of the ovaries in producing the nervous phenomena of the menopause. They also recorded the effect on blood-pressure and adrenalin glycosuria. They found that none of these effects was produced with any constancy by ovariectomy. Many of the cases which showed nervous symptoms after operation had had them before, and in some cases there was pronounced improvement in the nervous condition after operation.

Münchener medizinische Wochenschrift

March 11, LX, No. 10, pp. 505-568

109 Syphilitic Disease of the Aorta. S. Oberndorfer.
110 Advantages of the Phenolsulphonephthalein Test for Kidney Functioning. (Funktionelle Nierenprüfung nach Rowntree und Geraghty.) F. Erne.
111 *Diphtheria Bacilli in Secretions of Nose and Throat in Infants with Nutritional Disturbances. (Vorkommen von Diphtheriebazillen im Nasen und Rachensekret ernährungsgestörter Säuglinge.) E. Conradi.
112 General Principles for Treatment of Hernia. (Allgemeines über Bruchbehandlung und bes. Riesenbruch.) O. Witzel.
113 *Autoserotherapy. (Zur therapeutischen Verwendung des Eigenserums.) B. Spiethoff.
114 *Importance of Examination of Liver Functioning Before General Anesthesia. (Chloroformnarkose und Leberkrankheiten.) W. Hildebrandt.
115 Removal of Brain Tumor Under Local Anesthesia. (Exstirpation eines kleinfaustgrossen Hirnhauttumors in Lokalanästhesie.) H. Andree.
116 *Lead Poisoning in Workers on Brass; Two Cases. (Bleivergiftung in der Messingindustrie.) H. Althoff.
117 The Cerebrospinal Fluid in Latent Syphilis and Under Salvarsan. (Salvarsan und Liquor cerebrospinalis bei Frühsyphilis nebst ergänzenden Liquoruntersuchungen in der Latenzzeit.) K. Altmann and G. L. Dreyfus. Commenced in No. 9.

111. **Diphtheria Bacilli in the Nasal Secretions of Infants Free From Diphtheria.**—Conradi states that in his service at Cologne he found in the course of about a year that ten infants under treatment for digestive disturbances had diphtheria bacilli in the throat (two) or nasal (eight) secretions and yet they had no signs of diphtheria and no case of diphtheria developed in connection. The children with positive findings were always those in the poorest general condition in the service. The bacilli lingered in the secretions for two, three or four months in some of the infants, but they never seemed to display specific pathogenic properties.

113. **Autoserotherapy.**—The excellent results obtained in various skin affections by injections of serum from pregnant women or other sources encouraged Spiethoff to try the effect of reinjecting the patient's own serum. The outcome was quite encouraging so that he urges others in obstinate skin affections, rebellious to external measures, to apply this method. He drew 50 or 100 c.c. of blood from a vein in the forearm, and reinjected from 10 to 25 c.c. of the serum from it into a vein. He could see no difference when the serum had been inactivated by heating to 55 or 56 C. for half an hour or when this was omitted. The procedure was repeated two or three times a week to a total of six times. The reactions to the autoserum were the same as those observed with alien serum. The general and focal reaction seemed to be the impetus needed to start the affection on the road to a cure. In some cases he alternated or combined the patient's own serum with an alien serum. Among the affections favorably influenced were pruritus, psoriasis, and Hebra's prurigo and herpetiform dermatitis. The number of cases is too small for a decided opinion as to the value of the method, but they confirm the assumption of Freund, Abderhalden and others as to the pres-

ence in the serum of some non-specific substance which has a direct modifying action. The results observed cannot be ascribed to the effect of the venesection alone as other patients treated with venesection failed to show the general and focal reactions.

114. **General Anesthesia and the Liver.**—Hildebrandt insists that the liver functioning should be systematically tested before giving a general anesthetic, as a previously unsound liver will of course suffer more from the toxic action of the anesthetic.

116. **Lead Colic in Workers on Brass.**—Althoff describes two severe cases and calls attention to the prompt benefit derived from a suppository with 0.0005 gm. atropin, suggesting the use of one or two such suppositories in all cases of lead colic. The poisoning in his cases occurred from years of breathing minute amounts of lead in working with emery and on brass which contained 1 per cent. lead.

Virchows Archiv, Berlin

February, CCXI, No. 2, pp. 161-320

118 Epidermoid Cholesteatoma of the Brain. W. R. Meyer.
119 Giant Cells in Thyroid and Prostate. Wilke.
120 Stellate Inclusions in Giant Cells. (Ueber strahlige Einschlüsse in Riesenzellen.) E. Hummel.
121 *The Endosteum. M. A. Ssamoylenko.
122 Histogenesis of Toxic Changes in the Myocardium. N. Anitschkow.
123 Atherosclerosis of the Atrioventricular Valves. S. Sato.
124 Cystic Kidney. (Zur Zystennierenfrage.) O. Berner.
125 Plasma Cells in the Kidneys. W. Ceelen.
126 History of the *Methyl Green-Pyronin Section Stain.* A. Pappenheim.
127 Nodular Hyperplasia of the Liver Associated with Lesions in the Brain. Y. Yakoyama and W. Fischer.

March, No. 3, pp. 321-476

128 Importance of Langerhans' Islands in the Human Pancreas. K. Koch.
129 Syphilitic Aortitis. (Ueber die pathologische Histologie der syphilitischen Aortitis mit bes. Berücksichtigung des Vorkommens von Plasmazellen.) M. Fukushi.
130 Case of Recklinghausen's Disease with Hypernephroma. Saalmann.
131 Case of Total Inversion of the Viscera. A. Krokiewicz.
132 Congenital Bulging or Depression of the Skull with Spina Bifida and Encephalocele. Y. Kato.
133 The Mechanics of Embolism. R. Geigel.
4 Pathologic Anatomy of Paratyphoid. S. Saltykow.

121. **The Endosteum.**—Ssamoylenko made a detailed histological study of the endosteum, the membrane lining the marrow cavity surface of the bones, in twenty-two human beings varying in age from embryonic life to over 80 years. His conclusions are interesting as affecting the much discussed question of bone transplantation. He finds that the endosteum is a connective-tissue formation having the same function as the periosteum, namely, that of bone formation and bone absorption. The endosteum is an entirely different form of tissue from the bone marrow, and in fact forms a connective-tissue framework for the latter. The marrow does not share in bone regeneration and cannot exist independently from the endosteum, while the endosteum can live without any connec-

145 The Cell Reaction in Rats. (Experimentelle Studien über die Zellreaktion nach Freund-Kaminer bei Ratten.) K. Ishiwara.
146 Pathogenesis of Hebra's Herpetiform Impetigo. R. Marek.
147 Specific Prophylaxis of Tuberculosis. A. Kutschera.
148 Chronic Asthma in Rachitis. M. Kassowitz.
149 Digestion and Absorption in Light of Modern Serology. W. Buettner.

142-143. **Benzol in Leukemia.**—Klein reports his experiences with benzol treatment during the last six months in twenty-two cases of leukemia. He gives full details of twelve cases and states that the best results were obtained when the benzol treatment had been preceded by a course of roentgen exposures. The benzol seems then to act much more intensively and more rapidly on the organs and on the blood than either the radiotherapy or the benzol alone. He advocates this combination treatment in all cases of leukemia, especially for those with very high leukocyte count; in one of his cases the leukocytes numbered nearly a million. In one case of myeloid leukemia in a woman of 60, the leukocytes numbered 598,000. Under benzol for one month the spleen and liver became reduced in size but the blood picture could not be brought to approximate normal even with five months' benzol treatment. He was unable to detect any difference in the effect between the various forms of leukemia, and although his results were not so encouraging as those reported by Kiralyfi and Koranyi he still thinks that benzol is destined to play an important rôle in the treatment of leukemia. He did not give as large doses as others as a rule, finding that the results were equally good with less than 4 gm. per day. Doses up to 5 gm. in a few cases sometimes had an unfavorable influence on the red corpuscles. In one case showing particularly good results he gave a total of 100 gm. in thirty days. Most of the patients were given the benzol mixed with olive oil and dropped into milk or taken in a capsule. He has recently been injecting the benzol subcutaneously, mixed with equal parts of olive oil, 1 gm. once a day. In none of his cases were there any signs of irritation in the urinary apparatus. The action of the benzol seems to be restricted to the blood-forming organs.

Stern reports a case in which the leukemia had just developed. Under the benzol treatment the leukocytes dropped from 264,000 to 13,300, while the reds climbed up from over three to over five million and the patient seems now in excellent health after two months of benzol treatment.

Zentralblatt für Chirurgie, Leipsic

March 15, XL, No. 11, pp. 377-416

150 *Local Anesthesia for Joint Operations. (Gelenkanästhesie.) C. Deutschländer.
151 *Successful Suture of Artery in Infected Wound. (Sind Wundinfektion und langdauernde Abschnürung Gegenindikationen gegen die Gefässnaht bei Verletzungen?) W. Danielsen.
152 Six Gastrotomies on One Woman for Swallowed Spoons and Toothbrushes. Wolff.

ness, but notwithstanding this treatment and the suppuration of the wound, the young man had soon completely recovered, the suture of the artery having saved the arm.

Zentralblatt für Gynäkologie, Leipsic

March 15, XXXVII, No. 11, pp. 369-408

153 *No Benefit from Magnesium Sulphate in Eclampsia: Two Cases. (Zur Eklampsiebehandlung durch Injektionen in den Rückenmarkskanal.) Guggisberg.

154 Histologic Examination of the Placenta Not a Reliable Index of Duration of Pregnancy. Peters.

155 Interstitial Pregnancy. Siefart.

156 Difficulties of Lumbar Puncture with Rachitic Pelvis. (Technische Schwierigkeiten bei der Punktion des Sakralkanals rachitischer Becken.) W. Rübsamen.

157 Unreliability and By-Effects of Scopolamin-Pantopon "Exploratory Twilight Sleep." (Gestattet der "Probedämmerschlaf" eine Bestimmung der Toleranz für Skopolamin-Pantopon bei der nachfolgenden Operation?) H. Hölder.

153. Magnesium Sulphate in Eclampsia.—Guggisberg was disappointed with the outcome in the two cases of eclampsia in which he applied Meltzer's intraspinal magnesium sulphate treatment. When the action of the drug is restricted to the lower portion of the spinal cord, the therapeutic action is inadequate. But when the drug is sent to the upper part of the spinal cord—by raising the lower part of the body—the drug effectually reduces the tendency to convulsions but the method ceases then to be harmless. Disturbances in breathing may be anticipated. The method should not be attempted outside of an institution where medical supervision is possible all the time. The magnesium sulphate acts only on the convulsions; the injury of the parenchymatous organs from the eclampsia is not affected by this drug.

Zentralblatt für innere Medizin, Leipsic

March 15, XXXIV, No. 11, pp. 265-296

158 Technic for Determining Small Amounts of Indol. (Quantitative Bestimmungsmethode geringer Indolmengen.) E. Herzfeld and J. Baur.

Gazzetta degli Ospedali e delle Cliniche, Milan

March 6, XXXIV, No. 28, pp. 289-296

159 *Quantitative Test for Free Hydrochloric Acid in Stomach Content. E. U. Fittipaldi.

March 9, No. 29, pp. 297-312

160 *Congenital Megacolon. M. Fago.

March 11, No. 30, pp. 313-320

161 *Serious Hemorrhage After Tonsillectomy. (Qualche caso di emorragie gravi dopo ablazione delle tonsille palatine.) A. Malan.

March 13, No. 31, pp. 321-328

162 Serodiagnosis of Echinococcus Disease and Helminthiasis in General. (Dopo sette anni di sieroreazione diagnostiche delle elmintiasi.) G. Ghedini.

March 16, No. 32, pp. 329-344

163 Recurring Diphtheria; Three Attacks in Eight Months. (Recidive di difterite e trattamento dei portatori di bacilli difterici.) A. Montefusco.

159. Test for Free Acid in Stomach Content.—Fittipaldi has modified the tropeolin test to serve for quantitative estimation of the free hydrochloric acid in the stomach content. Instead of mixing the stomach content and the reagent, he drops a row of drops of the tropeolin solution on a porcelain dish. A minute drop of stomach content is then deposited in contact with a drop of the stain. At the zone of contact there will be a color reaction, the tint ranging from purple with little or no acid to a decided lilac. The degree of acidity is expressed in terms of the decinormal soda solution, adding five to ten drops at a time and then testing again with the glass rod, taking up the droplet of stomach solution and depositing it on the cold stain. The standard for the test is the concentration when there is no further immediate color reaction on addition of the drop of stomach content. A tardy color reaction is not to be regarded. The advantages of this technic are that the same stain serves for both the qualitative and quantitative tests. It shows free acid even when the Günzburg and Danilewsky tests give a negative response. Heating the stain for the Günzburg technic gives a useful control test. The drop method he advocates can be applied by artificial light, and it is particularly instructive when there are very small amounts of free acid present. It is exact enough for practical purposes, while the technic is extremely simple. The Töpfer and Summer-Fischer methods give misleading findings as the presence of lactic acid interferes with the results. He gives tables showing the parallel findings with this and various tests.

160. Congenital Megacolon.—Fago reviews the various types of congenital idiopathic dilatation of the colon and the history of the anomaly, remarking that long before Hirschsprung reported his four cases of obstipation from this cause, Favalli in Italy, in 1846, had published an account of a case; Porro had operated for the condition about 1876 and Jacobi had happened on the condition in operating for supposed atresia of the anus. Fago discusses the condition as it develops, the symptoms and complications, differentiation and treatment. Plication of the colon, proposed by Parlavecchio in 1904 and successfully carried out by P. Bastianelli soon afterward, seems the ideal procedure. In his case the patient was in perfect health when reexamined nearly four years later. This technic answers the desired purpose of reducing the size of the colon while it makes comparatively little demands on the patient's endurance. On dogs it gave always excellent results. Megacolon is liable to prove fatal from auto-intoxication, from inflammatory processes in the colon, from perforation peritonitis, from ileus and from cachexia. In his compilation of 111 cases, sixty-four of the patients died, the known mortality thus being 57.7 per cent. In reality it is probably much higher as the ultimate outcome is not known in a large proportion of the cases. Separating the operative from the nonoperative cases, he shows that the mortality in the latter group was 75.8 per cent, while in the forty-four operative cases it was only 38.8 per cent. Of the nineteen patients under a year old, 78 per cent. succumbed, and 58 per cent. of the thirty-one under 10. In the 104 cases of which the sex is mentioned, 75.6 per cent. were males.

161. To Reduce Danger of Hemorrhage After Tonsillectomy.—Malan found that systematic administration of calcium salts before a contemplated tonsillectomy seemed to aid in warding off danger of hemorrhage—at least he has had no serious hemorrhage since he has made a practice of this. He had no trouble even in a partial tonsillectomy in a hemophiliac who had always previously had severe hemorrhages on the slightest excuse. He advises further to insist on a preliminary purge, and states that another physician has told him of a case in which the severe hemorrhage kept up until the patient's rather tight belt was loosened, when the bleeding stopped at once. Compression with the fingers proved successful in one case after failure of all other measures to arrest the hemorrhage. Two fingers wrapped in gauze were applied directly to the raw surface of the tonsils with the thumbs pressing at the same time on the carotid. But this is extremely fatiguing for the physician and distressing for the patient. Escat ties the anterior and posterior pillars together, and this can also be done with metal clips. If all measures fail, the external carotid may be ligated, but this is liable to fail also on account of the numerous anastomoses. The site of the hemorrhage can be tamponed, providing for respiration and feeding with Kuhn's flexible peroral tube or other device. As adjuvants, all measures to reduce the blood-pressure and increase the coagulability of the blood are in order, including morphin, epinephrin, ergot and gelatin, not forgetting serotherapy. Nolf has had good results in menacing cases from subcutaneous injection of a 5 per cent. solution of peptone (Witte).

Policlinico, Rome

March 9, XX, No. 10, pp. 329-364

164 Lumbar Nephropexy: Technic and Experimental and Clinical Experiences. O. Tenani.

March 16, No. 11, pp. 365-400

165 Anachlorhydria with Liver Disease. (Osservazioni cliniche e ricerche sperimentali sull'anacloridria nelle affezioni epatiche.) A. S. Puglisi.

166 Magnesium Sulphate in Treatment of Chorea. (Cura della corea con le iniezioni endospinali di solfato di magnesio.) F. Feliziani.

March, Medical Section No. 3, pp. 97-144

167 Effect of Splenectomy on Acquired Hemolytic Jaundice with Anemia of the Pernicious Type. G. Antonelli. To be continued.

168 Experimental Research on Presence of Toxins in Expired Air. (Sulla presenza di antropotossine nell'aria espirata.) C. Farmachidis.

169 Oxaluria of Bacterial Origin. (Sul Bacillus oxalatigenes n. sp. L'ossaluria puo essere di origine batterica?) D. de Sandro.

Riforma Medica, Naples

March 1, XXIX, No. 9, pp. 225-252

170 *The Adrenals in Health and Disease. (Fisiopathologia delle capsule surrenali in rapporto al morbo di Addison ed alle sindromi surrenaliche.) P. Castellino. Concluded in No. 10.

171 Aberrant Goiter. (Caso di struma aberrante della loggia sottomascellare.) C. Crowther.

172 *Arteriosclerosis of the Stomach. (L'arterosclerosi gastrica—e sopra un caso di ematemesi arterosclerotica.) G. Dal Lago.

March 8, No. 10, pp. 253-280

173 Blood Diseases. (Scorbuto, emofilia ed anemia perniciosa progressiva.) E. De Renzi.

174 Acid-Fast Bacilli in the Blood-Stream. (Osservazioni e considerazioni sulla presenza di bacilli acido-resistenti nel sangue circolante.) A. Fagiuoli. To be continued.

170. **The Adrenals.**—Castellino reviews the history and present status of our knowledge regarding the adrenals and epinephrin, emphasizing anew the fact that research on the pathology of any organ must be based on thorough study of its physiology. Only when its normal conditions and functioning are known can we appreciate the shades of difference in morbid conditions.

172. **Arteriosclerosis of the Stomach.**—Dal Lago has found only about fifteen cases on record and adds another to the list. The gastric arteriosclerosis is generally part of a general arteriosclerosis affecting the viscera. It may entail dyspeptic disturbances or pain or may lead to hemorrhage. The dyspepsia is of the flatulent, hyposthenic type, the discomfort coming on soon after the meal, with drowsiness, painful distention of the stomach, difficulty in breathing and occasionally nausea and vomiting. The epigastrium is distended and tender. Belching relieves and the symptoms may then subside until after the next meal. The appetite keeps good and functional tests of the stomach give negative findings. In the gastralgic form there may be a sudden pain in the stomach with sense of distention and cramps for a few minutes; the pain may radiate to the back and scapula with nausea, belching and regurgitation, relieved by vomiting. These attacks may be accompanied by salivation, sweating, etc., and there may be a more or less complete syndrome suggesting angina pectoris, sometimes accompanied by symptoms on the part of the heart, abnormally rapid, slow or irregular pulse. In the hemorrhagic form there may or may not be vague symptoms on the part of the stomach before the gastric hemorrhage occurs. The hematemesis may be the first symptom to call attention to the organ. This form may affect comparatively young persons. The hemorrhage generally occurs from an eroded vessel but it is also possible by diapedesis. The dyspeptic and gastralgic forms generally are accompanied by signs of arteriosclerosis elsewhere. He reviews the cases on record, calling attention in particular to Bitot's case in which a man of 61 had digestive disturbances for a year with acid regurgitation and then five or six hemorrhages from the stomach in 1900. After a few months of anemia and emaciation a gastro-enterostomy restored comparatively normal conditions and the patient was in good health for seven years when the gastric hemorrhages recurred and although they were kept under control for two years, the patient succumbed to hematemesis in 1909. No signs of a tumor or cicatrix were found in the stomach but there was hemorrhagic suffusion at two points, resembling post-*mortem* lesions. Dal Lago's own patient was a sailor of 58 with a tendency to obesity, arthritis and excesses in eating and drinking. The stomach was obliged to do extra work, explaining the localization of the arteriosclerosis in this organ. The hematemesis in this case had been ascribed to an ulcer during life as there were no signs of cirrhosis of the liver, nephritis or cancer of the stomach. The presumptive diagnosis of arteriosclerotic gastrorrhagia should be suggested by discovery of signs of arteriosclerosis elsewhere in such cases. As it is liable to occur in the young, Boas' term "senile gastrorrhagia" is not appropriate. Raulin called attention four years ago to the fact that theobromin and strophanthus are liable to benefit in these cases of arteriosclerosis of the stomach while they have no action in cases of ulcer, and hence may prove useful in differentiation. A gastro-enterostomy may put an end to the spasm of the pylorus from irritation by passing food and thus help to restore normal conditions in the circulation. Bitot's success mentioned above should encourage further attempts in this line.

Semana Medica, Buenos Aires

February 13, XX, No. 7, pp. 369-432

175 Vaccine Treatment of Gonorrheal Arthritis. (Sobre algunos casos de artritis blenorragica tratados con la nucleo-protina gonococcica.) V. Fossati.

176 Infant Hygiene. (Necesidad de la enseñanza de la higiene infantil a la mujer argentina.) P. Rueda.

177 The Campaign Against Tuberculosis in Spain. (La lucha antituberculosa y los dispensarios.) J. C. Castellvi.

178 Colloids in Living Tissues. (El estado coloide en la materia viva.) J. R. Carracido.

179 The Teething Period. (La denticion y la baba.) M. G. Alvarez.

February 20, No. 8, pp. 433-496

180 Hygiene in Schools and Colleges. (La enseñanza y la practica de la higiene en los establecimientos de enseñanza secundaria.) P. J. Garcia.

181 Physiology of the Sexual Glands. (Las glandulas sexuales del hombre y su nueva fisiologia.) D. N. Serralach.

182 Universal Biology. (Plasmogenia.) A. S. Nuñez.

183 *Resonant Percussion. (Nota sobre un nuevo metodo de percusion.) M. Gil.

184 *Sounds in the Ears. (Estudio de los ruidos de oidos percibidos objetivamente.) E. Botella.

185 Demonstration of Carbon Monoxid in the Blood. (La demonstracion del oxido de carbono en la sangre.) A. de Dominicis.

186 Present Status of Radiotherapy. (La radioactividad.) M. Bertolotti.

183. **Resonant Percussion.**—Gil calls attention to the valuable information that may be derived from comparing the percussion findings when the patient stands in the center of a room or against the wall. The difference is sometimes surprising, when the sounds heard are reenforced by the resonance from the wall. He comments on the general disregard of the principles of acoustics when percussion is applied. The findings are apt to be misleading on this account, especially when percussion is applied to a patient in bed. The bedclothes deaden the findings and the wall on one side of the bed renders conditions in regard to resonance asymmetrical. He percusses with the patient standing, the trunk bare, the head held carefully in the median line, not bent away from the side being percussed, the arms hanging loose down. The opposite side (chest or back) should be parallel to the wall and not quite four inches from it (10 cm.). He sometimes has his patient stand between the opened doors of a wardrobe or apparatus case, the percussor completing the square formed by the patient's body and the two open, parallel doors. By opening or closing the doors a trifle more it is possible to reenforce the percussion findings at will.

184. **Subjective-Objective Sounds in the Ears.**—Botella has found about forty cases on record in which a rhythmic sound originating in the blood-vessels or muscles was perceived by the patient and was audible also to others. In a case in his own practice a child of 6 was anemic but otherwise normal. The parents noticed a moaning sound in the mastoid region, synchronous with the pulse and disappearing on compression of the carotid artery. Under cod liver oil the anemia improved and the sound ceased to be heard, disproving the first assumption that it was due to some aneurysm. The anemia alone must have produced it. In another case a man of 32 had complained of sounds in his ear for three months. They ceased only when he bent his head over to that side. The sounds were audible to others and seemed to be located in the internal carotid. They disappeared permanently after catheterization of the eustachian tube although the tube had not been obstructed.

Hospitalstidende, Copenhagen

March 12, LVI, No. 11, pp. 273-296

187 Anemic States with Chronic Gastric Achylia. K. Faber.

Ugeskrift for Læger, Copenhagen

March 13, LXXV, No. 11, pp. 439-480

188 History of the Mastoid Operation. (Documentum humanum til Belysning af Mastoidaloperationens Historie.) E. Schmiegelow.

189 Resection of the Stomach. (Om Resektion af Ventriklen.) A. Pers.

The Journal of the
American Medical Association

Published Under the Auspices of the Board of Trustees

Vol. LX, No. 17 Chicago, Illinois April 26, 1913

THE DANGER AND PREVENTION OF SEVERE CARDIAC STRAIN DURING ANESTHESIA *

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We started the investigation which is here reported to determine the effects of the Trendelenburg position on the circulation and respiration, and to formulate rules for its safe employment. We had become convinced from cases observed by ourselves, and from communications from a large number of surgeons and anesthetists, that this posture may at times endanger the life of the patient during anesthesia. Our experiments, checked by clinical observations, have demonstrated, to our own satisfaction at least, that this conclusion is correct. But they have also shown that the Trendelenburg position is only one of several agencies which act in the same manner, namely, by increasing to a dangerous extent the flow of the blood to the heart. A study of cases of death during anesthesia under present-day conditions of surgery will show, we think, that more fatalities result from this cause than from its opposite — diminished supply brought about by hemorrhage or so-called surgical shock. The most important of the agencies of which we are speaking are the Trendelenburg position, forcible pressure on the abdominal viscera and struggling.

In operations on man these causes frequently act together, but in our experiments we have sought to study the effects of each separately. The danger of an overfilling of the right side of the heart is greatly increased by asphyxia. Hence we have considered the effect of obstructed or arrested breathing on each of the conditions just enumerated.

THE TRENDELENBURG POSITION

A gynecologist of wide experience once stated to us that he knew of no more certain way to kill a fat woman than to leave her for some time in the high Trendelenburg position. Our own observation has been that the head-down position is badly borne by patients with cardiac disease, or by those with obstruction to the breathing. The two cases reported below illustrate the effect of the position in such cases. We could report several others of a similar kind.

Case 1.—The patient[1] was a man with aortic and mitral insufficiency and a pericardial effusion first discovered at autopsy. While lying flat he was anesthetized with gas-oxygen and ether, and then placed in the lithotomy position with his pelvis well elevated. The anesthetist reported that the patient's condition was excellent until he was placed in this position. His color at once became cyanotic and his breathing poor. He died before it was possible to remove him from the table.

Death was probably due to overdistention of the right side of the heart, complicated, perhaps, by some interference with the respiration.

Case 2.—A man of 65, very fat, but with a circulatory apparatus apparently in good condition, was etherized and placed in the high lithotomy position described above. His breathing, somewhat obstructed from the start, became poor, his color cyanotic and his pulse rapid and weak. He was immediately taken from the table and placed flat on a stretcher. His condition at once improved. He was etherized somewhat more deeply and again placed on the table, but this time with very slight elevation of the pelvis. The operation was then completed without further trouble. In this case also the cardiac strain was increased by asphyxia.

The literature in clinical journals on the effects of the head-down position is rather meager. Kraske[2] reports two cases of suprapubic cystotomy, in both of which there were postoperative intestinal obstructions. One patient recovered without operative interference, the other required operation and came to autopsy. The omentum was found incarcerated in the upper part of the abdomen, obstructing the transverse colon and pressing on the gastric and portal veins. Hematemesis had been present, and gastric ulcers were found which were supposed to be due to the obstructed veins.

Kraske attributed the trouble in both of these cases to displacement of a fatty omentum produced by the Trendelenburg position during operation. So far as we can discover no cases similar to these have been reported. Kraske in the same paper also reports two cases of postoperative heart failure, which he thinks was caused by overdistention of the heart, produced by the head-down position.

Franz,[3] from observation on fifteen patients while they were in the Trendelenburg position, doubts that this posture causes any noteworthy changes in the circulation, but thinks that it interferes markedly with the ventilation of the lungs He states that the decreased oxidation caused by the head-down position must, if long continued, cause serious damage to the entire organism, and most of all probably to the central nervous system. He observed that the patient always showed a marked decrease in respiration if suddenly placed in the head-down posture, and cautions against doing this.

Joyle[4] attributes the danger of the position to the excessive strain which it throws on the heart.

Leonard Hill was the first to investigate in a thoroughgoing manner the effects of gravity on the circulation

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* From the Laboratory of Experimental Surgery of Indiana University School of Medicine.

[1] This is the patient whose death was reported as Fatality 2 by W. D. Gatch, The Use of Rebreathing in the Administration of Anesthetics, The Journal A. M. A., Nov. 11, 1911, p. 1593.

[2] Kraske: Beckenhochlagerung und ihre Gefahren, Arch. f klin. Chir. (Langenbeck's), 1903, lxxi, 453.

[3] Franz: Nachteile den Beckenhochlagerung, Zentralbl. f. Gynäk., 1903, xxvii, 969.

[4] Joyle: La mort et les accidents provoqués par a position déclive en chirurgie abdominale, Presse méd., September, 1903, p. 158.

and respiration.[5] His conclusions have been generally accepted and our experiments served to verify them in every particular. Using morphin to anesthetize the animals, he found that in the dog and cat the blood-pressure falls in the carotid artery under the influence of gravity in the head-up posture, and rises in the feet-up posture; that compensation for these effects takes place more or less in normal animals by *vasoconstriction in the splanchnic area in the head-down position, with cardiac acceleration in some cases, and by cardiac inhibition and by vasodilatation in the feet-up position.* Salathé, quoted by Hill, found that rabbits are killed by the feet-down position in from fifteen minutes to two hours, the animals practically bleeding to death into their splanchnic veins. Hill also showed that when the vasomotor tone is abolished, the respiratory movements can *still* compensate to some extent for the effect of gravity on the circulation. This compensation is accomplished in the feet-down position by a contraction of the abdominal muscles, which serves to compress the splanchnic vessels, and by deep thoracic inspirations which serve to aspirate blood into the heart. In the feet-up position it is brought about by a relaxation of the abdominal muscles, and by diaphragmatic inspiration, this type of inspiration favoring the accumulation of blood within the abdomen and thus protecting the heart against overdilatation. In the monkey, Hill found that the effect of the vertical position under morphin is to raise the blood-pressure. This effect is due to the more highly developed vasomotor mechanism of this animal. When, however, the monkey's vasomotor tone is abolished, this animal is affected in the same manner as the dog or cat. Such abolition of vasomotor tone is quickly brought about by chloroform anesthesia, and much less rapidly by ether anesthesia.

Hill demonstrated that in the approximately normal animal the head-down position can be maintained for hours without ill effects. This, we shall show, is not the case if the animal is anesthetized with ether.

EXPERIMENTS ON THE EFFECTS OF THE TRENDELENBURG POSITION

Our experiments were performed on dogs. Ether without any morphin was used to anesthetize them. The ether was given by means of a can, through a hole in the side of which ether could be added drop by drop. This method in the hands of the same anesthetist who gave the ether in these experiments has been used in the laboratory for a long time and with very few fatalities under ordinary conditions. A record was taken of the respiration and blood-pressure with the animal in the horizontal position. The dog was then placed in a Trendelenburg position of from 45° to 50° and a continuous record taken throughout the remainder of the experiment. The effects of the head-down position were positive and startling, and at first we were at a loss to explain them. Only four of fifteen dogs lived in this position more than an hour and a half unless revived by artificial respiration. One dog died in three minutes, another in five minutes. The average time of survival for the entire series was about twenty minutes. The animals which showed the greatest resistance were all young. It was noteworthy that nearly all the dogs died while very lightly etherized; many of them when the ether had been entirely removed. The records showed almost invariably the same results. The change to the head-down position caused a slight rise in blood-pressure, a slight increase in the pulse-rate, and little or no change in the rate of respiration. The breathing became more labored, however, and assumed a diaphragmatic character. The abdominal muscles were relaxed. While the animal remained in the abnormal position its pulse and blood-pressure showed practically no change till the respiration failed. This invariably occurred sooner or later. After marked variations the breathing would weaken and gradually cease. When this occurred the heart would always continue to act normally for a time, and the blood-pressure would rise or remain at the same level, but at the end would abruptly sink to the base-line, death taking place in from one to two minutes after the respiration had ceased. If the dog were lowered and given artificial respiration as soon as the blood-pressure began to fall, it could usually be revived. We succeeded in bringing around a few animals without lowering, by artificial respiration alone, begun as soon as natural breathing ceased. As soon as it started to breathe its blood-pressure would quickly rise to the former level, and the dog's condition would become perfectly normal. The animal could now be placed a second time in the Trendelenburg position, when an exactly similar series of results would occur.

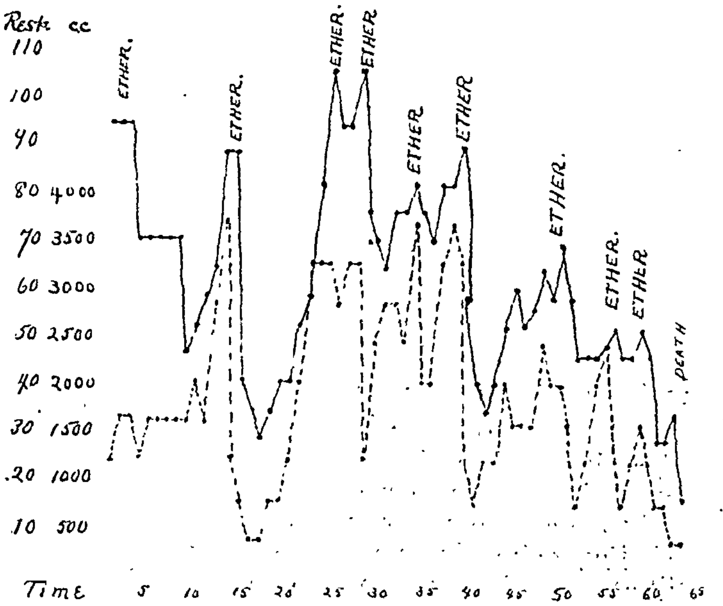

Fig. 1.—Chart showing rate of respiration (solid line) and amount of air inspired per minute (broken line) by a dog under light ether anesthesia. The ether was given in very small amounts. Note the enormous decrease in pulmonary ventilation after each administration. For the first ten minutes the dog was in the horizontal position, for the remainder of the experiment in a Trendelenburg position of 45 degrees.

What is the cause of death in these experiments? We can safely conclude that it is primarily failure of the respiration, for the heart-action remains good and the blood-pressure high until after the breathing has ceased. But what causes the respiration to fail? At first thought this would seem to be brought about by fatigue of the diaphragm, which in the Trendelenburg position has to lift the abdominal viscera at each inspiration. But this explanation is excluded by the fact that a dog under morphin narcosis will live for hours in the head-down position without any sign of fatigue of the diaphragm — a fact demonstrated by Hill and verified by ourselves. We are driven to the conclusion that the failure of the respiration is in some way caused by the ether, since it does not occur when morphin is used instead, and furthermore that it is due to some action on the respiratory center. We can derive no evidence from our experiments for the belief that respiratory failure in dogs under ether is more common in the Trendelenburg position than in the horizontal position. But we have found, we believe, conclusive proof for the opinion that a partial or complete failure of the respiration is made much more dangerous by the head-down position.

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[5] Hill: The Influence of the Force of Gravity on the Circulation of the Blood, Jour. Physiol., 1895, xviii, 15. Hill and Barnard: Jour. Physiol., 1897, xxi, 323. Hill: Advances in Physiology, chapter on Vascular System and Blood-Pressure, Edward-Arnold, London, 1909.

Dogs under ether administered with a free supply of air show enormous variations from minute to minute in the amount of their pulmonary ventilation, and are extremely liable to sudden complete arrest of breathing. This fact is shown by the chart (Fig. 1), the curves of which represent the rate of respiration and amount of air inspired per minute by a dog under light ether anesthesia. From four experiments of this kind we have found that the pulmonary ventilation is just as good in the Trendelenburg as in the horizontal posture.

This sensitiveness of the dog's respiratory center to the action of ether affords, we believe, the explanation of the death of our animals. As long as the dog's breathing is good it withstands the head-down posture without ill effects. Whenever the breathing fails, partially or completely, the position greatly increases the danger. Then the heart, poorly supplied with oxygen, has to pump a supply of blood, made much greater than normal by the action of gravity, against a blood-pressure elevated by asphyxia. If the heart is weak even a partial failure of the breathing, which in the horizontal position would pass unnoticed, may prove fatal in the Trendelenburg position. Several of our records show a failure of the heart while slight respiratory movements were still being recorded.

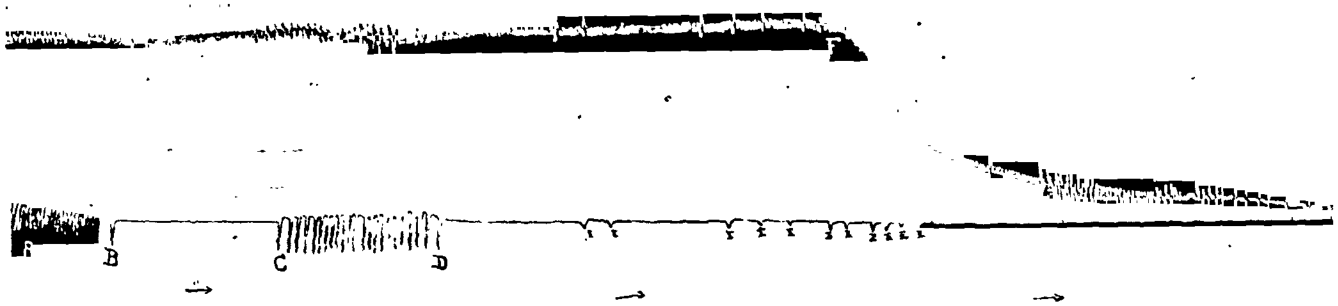

Fig. 2.—Record taken on revolving drum of the blood-pressure in the carotid artery. The upper line in the tracing records the blood-pressure, the lower line the respiration of a dog in the horizontal position under ether anesthesia. At *A* the ether was being forced. At *B* the breathing ceased and the ether was taken away. At *C* spontaneous breathing began and the ether was again forced. At *D* the breathing failed a second time and the ether was not removed. *E*, *E* represent slight respiratory efforts. At *F* the heart first began to fail. Note the extreme length of time—nine minutes—during which the heart continued to beat after the breathing had failed at *D*. In the control dog in the Trendelenburg position the ether was forced until breathing ceased and was then removed. The heart failed in less than two minutes and before spontaneous breathing was resumed.

The record shown in Figure 2 was obtained from a dog in the horizontal position by pushing the ether till respiration ceased. The ether was then removed and the dog resumed spontaneous breathing. The ether was then given again, and this time was not removed when respiration ceased; but the heart continued to beat normally for nine minutes. In the control experiment with the dog in the Trendelenburg position the ether was pushed until the breathing ceased and was then removed. The heart failed and the dog died in less than two minutes. In over thirty failures of the respiration in sixteen dogs in the head-down position we observed only once a spontaneous recovery.

If the ill effects of the head-down position in dogs are due primarily to failure of the respiration, they should be obviated if the respiration is kept stimulated by hypercapnia. This we found to be true. Furthermore, we find that a hypercapnia protects the animal to a surprising degree against respiratory failure from an excessive dose of ether. The curves of the tracing (Fig. 3) were obtained by making a dog rebreathe into a closed bag to which from time to time limited amounts of fresh air were supplied. When the breathing had been stimulated to the maximum extent the dog was overwhelmed with ether by immersing an ether bottle connected to the bag by rubber tubing in boiling water. The breathing was stopped even by this means with some difficulty and was quickly resumed when the bag was disconnected from the animal's trachea. The animal then breathed very rapidly for a time and recovered its reflexes in three minutes. This shows the effect of increased pulmonary ventilation in ridding the blood of ether.

In some dogs under ether the diaphragmatic breathing stops while thoracic breathing is continued. The mediastinal septum of the dog is so lax that as soon as its diaphragm ceases to contract when the animal is in the head-down posture all its abdominal organs sink into its thorax. The effect, therefore, of breathing of this type in the Trendelenburg position must be to aspirate the abdominal viscera into the chest, and partially to prevent the ingress of air.

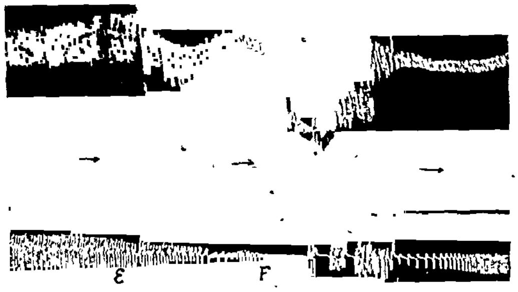

Fig. 3.—Tracing showing the effect of rebreathing in protecting against respiratory failure from an excessive dose of ether. The upper line records the blood-pressure in the carotid artery, the lower line the respiration. The dog's trachea was connected with a rubber bag into which it rebreathed until its respiration was greatly stimulated. At *E* the animal was given a tremendous dose of ether by immersing an ether bottle, connected with the rubber bag by tubing, in boiling water. At *F* the breathing failed and the bag was disconnected from the trachea. Note the fall of blood-pressure at this point and the rapid recovery of respiration and blood-pressure after the removal of the ether

We found that as a rule dogs whose phrenic nerves had been cut quickly succumb in the head-down position, the time of survival in four experiments being 12½, 10½, 5 and 12 minutes, respectively. One dog, however, lived an hour and twenty minutes in the Trendelenburg position with both phrenics cut. This animal, however, had just given birth to pups and perhaps this fact may account in some way for its survival.

In man a cessation of the action of the diaphragm in the course of anesthesia is not infrequently observed. Hewitt speaks of it as a sign of impending danger. In the Trendelenburg position it must be doubly dangerous, but probably not so perilous to man as to the dog, since the human mediastinum is a much more rigid structure than that of the dog, and must therefore prevent the abdominal organs from sinking so deeply into the thorax. As a further control of the results we performed the following experiment:

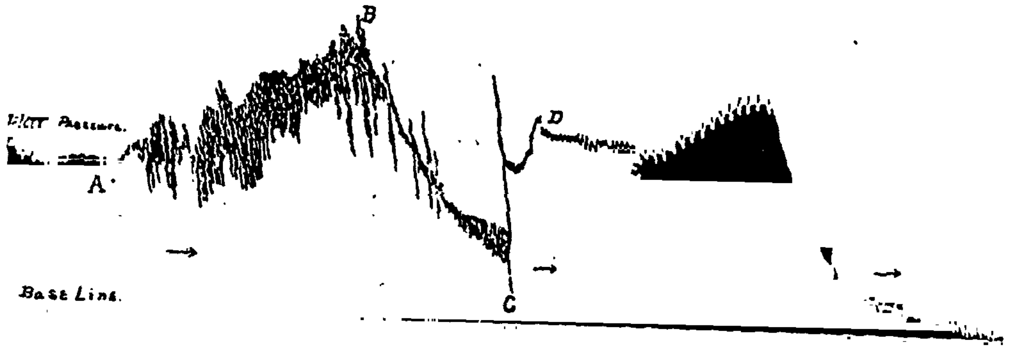

Fig. 4.—A tracing of the carotid blood-pressure obtained from a dog under deep ether anesthesia, with its thorax open and its respiration maintained by means of a bellows connected with its trachea. At *A* the bellows was stopped. Note the rise of the blood-pressure and the long powerful beats of the heart. At *B* the blood-pressure began to fall and at *C* had almost reached the base line. The heart at this time was greatly dilated. The long vertical line at *C* represents the time during which the drum was at rest and the heart was being revived by massage and renewed ventilation of the lungs. At *D* the heart was acting well and the blood-pressure was at its normal level. At *E* the bellows was stopped a second time. Contrast the rapid failure of the heart which then occurred with the slow failure during the first period of asphyxia after *A*.

A dog was well etherized and its thorax opened widely so that the heart could be observed, while artificial respiration was given by means of a bellows. The animal was then placed in the head-down position, the artificial respiration stopped, and the time required to bring the heart to a standstill noted. This for four different dogs was as follows: 2¾, 4½, 3½ and 4¾ minutes, an average of 3 9/10 minutes. The same experiment was tried on three dogs in the horizontal position. The results in this series were 9 minutes, 6½ minutes and 8 minutes, an average of 7 8/10 minutes. These results clearly show that during asphyxia, when there has been no loss of blood, the head-down position is injurious to the heart.

In these experiments the lungs were always well ventilated just before the artificial respiration was stopped. This accounts for the fact that the heart was able to hold out for so long a time. In the experiments described previous to these there was a partial degree of asphyxia before the breathing ceased entirely.

In all the dogs of this series we were able to revive the heart by massaging it and starting the artificial respiration. But although its condition, as shown by direct observation of its contraction and by the level of the blood-pressure, was apparently normal, unmistakable evidence that it had been seriously injured by the overdilatation and asphyxia was obtained. After revival, if the artificial respiration was stopped a second time, the heart, instead of giving the long forceful beats which it gave during the first period of asphyxia, gave rapid incomplete contractions and, greatly dilated, ceased to act in less than two minutes. Here we have proof of the truth of the belief that a period of serious cardiac strain during anesthesia may temporarily at least, and probably permanently, injure the heart. The following case, related to us by an anesthetist, is instructive in this connection:

> A middle-aged woman in rather poor health but with no apparent cardiac disease was etherized for a pelvic operation. She was placed in the Trendelenburg position and her intestines, packed off with gauze pads, were firmly retracted upward. Some difficulty in obtaining muscular relaxation was experienced so that the ether had to be forced. The patient ceased suddenly to breathe in the early part of the operation and her pulse became imperceptible at the wrist. She was revived by artificial respiration and the operation completed. The patient was then returned to her room in what was regarded as a fair condition. Six hours later, however, she suddenly died of acute cardiac failure.

THE EFFECT OF STRUGGLING

We have investigated this in the following manner: A dog's thorax was opened under the conditions described, except that the animal was anesthetized so lightly that during asphyxia it would struggle, although the anesthesia was deep enough to prevent pain. With each forcible contraction of the abdominal muscles the right auricle and ventricle could be seen to balloon out to great size, showing to what extent the blood in the abdominal veins was being squeezed into the thorax. Under the dreadful strain the heart would quickly become overdilated and cease to contract. (Fig. 4). In no one of the four dogs on which this experiment was tried did the heart continue to act for more than one minute. Besides overdilating the heart in this manner, muscular contractions by using up the oxygen in the blood rapidly increase the degree of asphyxia. A patient with a powerful muscular system is prone during anesthesia to reflex spasms of the respiratory muscles accompanied by violent struggling—particularly the conditions investigated in our experiments.

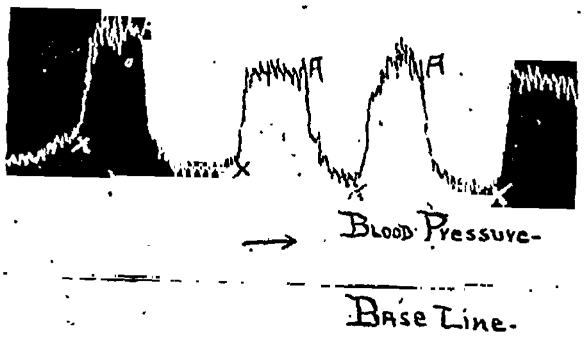

Fig. 5.—Tracing showing the effect of compression of the abdominal viscera on the blood-pressure. At the points marked *X* the intestines were compressed by the hand within the abdomen, and at the points marked *A* the pressure was released.

THE EFFECT OF PRESSURE ON THE ABDOMINAL VISCERA

Roy and Adami[6] found that compression of the abdomen increases the output of the heart 29.6 per cent. The abdominal veins can contain all the blood of the body. When, therefore, the intestines are packed off with gauze and retracted upward, as in the case reported above, it is reasonable to suppose that the heart has to handle a greatly increased amount of blood. The effect of this procedure on the blood-pressure of a dog is shown in Figure 5.

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[6] Roy and Adami. Brit. Med. Jour., December, 1888.

INTERPRETATION OF RESULTS

Physiologists generally recognize the importance of muscular movement in maintaining the circulation. It is especially important in man because of his upright posture. The matter is thus stated by Hill:[5]

> The function of the heart is to drive the blood into the capillary bed, the function of the arterioles is to regulate the distribution and switch the current on to one or other part of the capillary bed and limit the pooling of the blood under the stress of gravity; the function of the skeletal muscles and respiratory pump, aided by the valves in the veins, is to drive the blood back from the capillary bed to the heart, to prevent hypostatic congestion, and to act as a pump to the vascular system of no less importance than the heart. The respiratory pump may even drive the blood through the right heart and lungs.

Under the conditions of normal life the actions of the heart and of the vasomotor and respiratory mechanisms and their muscles are so nicely correlated that the circulation is maintained without subjecting the heart to any undue strain, even by violent exercise or the head-down position. When a man hangs head downward the blood-pressure in his brachial artery is but slightly elevated above its level in the recumbent posture, although the hydrostatic pressure of a column of blood reacting from the foot to the heart of a man 6 feet tall is almost equal to his normal blood-pressure. The compensation in this case is brought about by vasodilatation and by lessened cardiac output (Hill), and we may add that by muscular relaxation the increased flow of blood to the heart caused by gravity is reduced to the least possible amount. The dilatation of the arterioles allows the blood to accumulate in the capillaries, especially in the capillaries of the abdominal organs. The muscular relaxation prevents compression of the sponge-like capillary network which would force an increased quantity of blood to the heart. We have already pointed out that the abdominal walls are relaxed in the head-down position. Before the days of anesthetics patients were rendered unconscious during short operations by first holding them head downward and then suddenly reversing this position. The effect of the head-down position is to relax the arteries and to accumulate the blood in the capillaries of the abdomen and legs. If when this has occurred the position is suddenly reversed, the capillaries cannot give up their blood rapidly enough to the veins to supply the heart. Hence a brief period of cerebral anemia and unconsciousness results.

During muscular exercise the vasomotor mechanism switches an increased supply of blood into the muscles, while their contractions pump the blood rapidly into the veins and to the heart. Meanwhile the increased respiration keeps the blood well supplied with oxygen and removes the waste products from it.

From a consideration of the facts just stated we are in a position to explain the phenomena noted in our experiments and observed at times in the course of anesthesia in man. In normal men or animals under anesthesia the head-down position has no ill effects provided the respiration is adequate and the muscles at rest. When, however, the breathing becomes insufficient the entire mechanism, wherewith the body compensates for the effects of gravity on the circulation, is deranged. The asphyxia injures the cardiac muscle and raises the blood-pressure. The head-down position at the same time insures that every drop of blood which passes through the capillaries of the abdomen and legs will quickly return to the heart — a condition not present when the asphyxia occurs with the body in the horizontal or upright position. The heart then has to pump a supply of blood at least normal against an increased arterial pressure, at a time when it is poorly able to respond to the increased strain. If the patient at this time struggles, or if pressure is made on his intestines, the state of affairs is rendered much worse.

PRACTICAL APPLICATIONS

We are concerned in this paper primarily with the return of blood to the heart. We have shown that this return may at times be so excessive as to subject the heart to an undue strain. The common agencies whereby this is brought about are the head-down position, pressure on the abdominal viscera, and struggling. The action of these is rendered much more harmful by asphyxia. In fact, we are probably safe in saying that in the entire absence of asphyxia these agencies cannot injure a normal human heart. The problem of practical anesthesia is to reduce to a minimum the harmful influences under discussion. Trusting that the evidence presented has been sufficient justification for our conclusions, we shall now state the means whereby in our opinion this can be accomplished.

It will be sufficient to consider three classes of patients who are peculiarly liable to be injured in the course of anesthesia by overdistention of the heart: those with a well-developed muscular system, those who are alcoholic, and those who have disease of the circulatory apparatus. Patients of all these classes should be given from 1/6 to ¼ grain of morphin and 1/100 grain of atropin half an hour before operation. Kocher advises that alcoholics be given whisky or brandy shortly before taking their anesthetic. We have found this a great aid in anesthetizing them. The preliminary use of morphin and alcohol does a great deal to allay struggling in the early stage of anesthesia.

It is all too common a practice to try to anesthetize a robust or alcoholic man without the aid of any foregoing medication. Attempts of this kind are responsible for not a few deaths — of which we have personally seen one. The trouble in these cases arises from the liability to prolonged spasm of the respiratory muscles, and to the struggling. We have already discussed sufficiently the dangerous character of this combination. If after a long fight during which the patient is constantly cyanotic he is finally "put under," it may be at the expense of a serious injury to his heart. In view of our experiments on overdilatation of the heart during asphyxia, it is not unreasonable to attribute many cases of sudden postoperative death to injury of the heart during anesthesia. It is a rule which should never be departed from that a patient during anesthesia must not be allowed to become cyanotic. It is better to spend half an hour etherizing a man of the type we are discussing and put him to sleep without cyanosis, and if this is impossible even to defer the operation, than to anesthetize him at the cost of a deep cyanosis of two minutes' duration — a degree of asphyxia which under the circumstances may be sufficient to stop his heart.

We have never seen a patient who, with proper preparation, could not be etherized without cyanosis.

Patients with cardiac disease by their own behavior in the conscious state furnish us a clue to their management under anesthesia. They prefer a sitting posture and keep very quiet. The sitting posture diminishes the pulmonary congestion, aids the breathing and prevents pressure of the abdominal organs on the heart, and any rush of blood from the engorged splanchnic veins to the heart. The quiet condition of the muscles reduces oxidation and hence the need of the body for arterial blood to a minimum. We should therefore anesthetize patients who are known or suspected to have cardiac or vascular disease while they are in a semirecumbent or sitting posture, and every precaution should be taken by means of a preliminary dose of morphin, and cautious, slow administration of the anesthetic, to put them to sleep without the least struggle. To do this is the main problem in their management. The depth of anesthesia should be enough to produce a moderate degree of muscular relaxation. This will prevent any reflex movement or reflex stoppage of the respiration. Patients of this class should never be placed in the Trendelenberg position.

Patients with exophthalmic goiter, on account of their cardiovascular disturbances, should be considered here. The pain and excitement of operation under local anesthesia renders this, in our opinion, more dangerous to them than a carefully given general anesthetic. The administration should be managed as in other cardiac cases. The practice of operating on them under ether anesthesia so light that they will respond to questions works well, it is true, in many cases; but it is fraught with danger because of the liability of the patient to retch and struggle. A fatal asphyxia may occur while vomitus is being removed from the patient's throat.

We have already written of the advantage of rebreathing in the anesthetization of cardiac patients. This n best be secured by the use of some simple form of as-oxygen-ether apparatus like that of Gwathmey, Flint or our own; or if this is not at hand, by the use of a drop-ether mask which will prevent a too ready exchange of air.

Patients with pneumonia or empyema should be managed in the same manner as patients with cardiac disease.

CONCLUSIONS

1. The Trendelenburg position is harmless for patients with normal hearts, provided their respiration is free and unobstructed. In case of partial or complete failure or obstruction of the respiration, the patient should at once be placed in the horizontal or semirecumbent posture.

2. The Trendelenburg position should be used only with the most extreme caution in cases of cardiac disease.

3. To prevent a too sudden inflow of blood to the heart the patient should be placed gradually in the Trendelenburg position, and to prevent a sudden failure of the circulation the patient should be gradually lowered.

4. The effect of struggling and of pressure on the abdominal viscera is to increase greatly the strain on the heart. These agencies also are harmless to injure patients with normal hearts and arteries, provided the breathing is adequate to prevent cyanosis.

5. During asphyxia all of the three agencies considered tend to produce a rapid dilatation of the right side of the heart. A heart once overdilated while in a state of asphyxia is temporarily, and possibly permanently, injured. This is suggested as a possible explanation of certain cases of sudden postoperative death.

6. Robust patients should be given morphin, and alcoholic patients morphin and alcohol before operation, and should be anesthetized without being permitted to become cyanotic.

7. Patients with cardiac disease, pneumonia or empyema should be given morphin before operation and should be anesthetized cautiously and slowly in the sitting or semirecumbent posture.

8. The production of a hypercapnia protects to a marked degree from respiratory failure during anesthesia, and hence from the harmful effects of the agencies which promote a free supply of blood to the heart. Under ether certainly, and probably under nitrous oxid, cardiac failure is always secondary to asphyxia.

9. Morphin and moderate ether narcosis does not impair vasomotor tone in man. Hence in the absence of hemorrhage the semiupright posture is not harmful to man under this form of anesthesia.

A CASE OF CONGENITAL HEART DISEASE *

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The presentation of this case of congenital heart disease is possibly of academic rather than practical interest:

History.—Mr. G. R., aged 35, was admitted to the University of California service in the San Francisco Hospital, for varicose ulcers of both legs. His father had varicose ulcers and veins at the age of 30, and one brother has varicose ulcers. According to the patient's mother, he was born at full term and was black until he was 6 weeks old, after which his complexion cleared. Clubbing of his fingers was first noticed when he was 8 or 10 years old. He has had measles, whooping-cough, and about fifteen years ago had "quinsy sore throat" during two or three winters. About a year ago he had facial erysipelas.

The patient has been spasmodically a heavy drinker. He has noticed that the condition on his legs is worse when he drinks, and that also under the same condition he sometimes expectorates blood.

Examination.—The patient's hands and face have a cyanotic duskiness. His fingers and toes are markedly clubbed, his chest is of a peculiar emphysematous type (Fig. 1), not like the barrel chest which is usually seen with advancing years, but one with a short vertical dimension and with a peculiar round cross-section, as if his thorax had remained of the infantile type and had become fixed in the position of deep inspiration while he was still very young.

In various places on the skin there are capillary nevi which show dilated capillaries radiating from a prominent center and making round reddened areas from 5 mm. to 3 cm. (1/5 to 1 1/5 inch) in diameter, on the chest, right shoulder, left arm and back of left ear. The left pupil is larger than the right, both reacting properly to light and distance. The retinas show nothing abnormal.

On examination of the heart it is seen that the precordial area bulges perceptibly; no cardiac movements are visible, and no thrill is palpable. On percussion and *x*-ray examination there is increased size of the heart to the right of the sternum in a moderate degree. The apex is rather acute than blunt. the left margin extending in the fifth interspace ¼ inch outside left nipple line. There is a systolic murmur heard with maximal intensity over the apex just inside left border of the heart in the fourth and fifth interspaces and transmitted into the axillae and also toward the sternum, diminishing in intensity to a point 2½ inches to the right of the apex. A systolic murmur is heard in the second left interspace close to the sternum, and is also heard in the first space with equal intensity at the right and left of the sternum. This murmur can be followed down the left border of the sternum to the tricuspid area.

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* Read before the San Francisco County Medical Society, Nov. 5 1912.

Diagnosis.—While the physical signs of congenital heart lesions are notoriously erratic, one would appear to be justified in this case in making the diagnosis of open interventricular septum for the following reasons: In the first place the classical signs of congenital heart disease are present. The patient was a blue baby; he still retains some cyanosis; there is pronounced clubbing of the fingers (Fig. 2), and the heart is more enlarged than would be expected from the mitral valve lesion present. There is a murmur heard over the heart particularly at the base, as well as one at the apex which is presumed to be due to mitral valvulitis. In addition to these the peculiar type of chest, the varicose ulcers of the legs, the enlarged veins on the chest and the stellate nevi indicate circulatory interference.

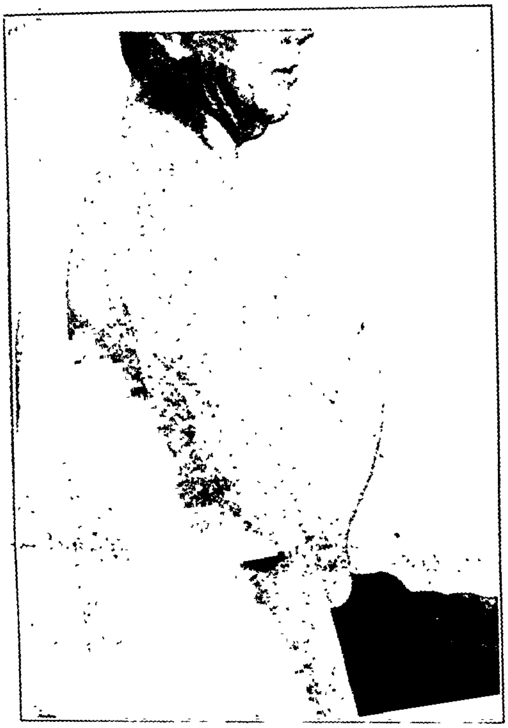

Fig. 1.—Emphysematous chest occurring in patient with congenital heart disease.

The most characteristic signs of a persistent ductus arteriosus are a thrill with a loud systolic murmur of greatest intensity at the base of the heart not associated with hypertrophy of either ventricle. There may be also a murmur running into or through the diastole. The cap does not fit here, as in this patient there is absence of thrill and there is enlargement of the heart. Nor does he seem to have pulmonary stenosis, which would be likely to be manifested by a systolic thrill and murmur at the base with a diminished second pulmonary sound or a diastolic murmur. By exclusion, then, the question of open foramen ovale or interventricular septum remains. Quoting Cabot, "patency of the foramen ovale, if unassociated with other defects, does not usually produce any murmur or other signs by which it can be recognized during life and causes no symptoms of any kind."

It is not to be denied, however, that under certain conditions there may be a systolic murmur in open foramen ovale; particularly might this be true with a mitral valve leak. A distinction should be made between the terms "open" and "patent." If the pressure during auricular systole differs sufficiently in the two auricles a presystolic murmur may be expected as in a case (without post-mortem) described by Babcock in which there was a loud, distinct, systolic bruit in the third left interspace close to the septum with a very short presystolic portion. In favor of the view that this patient has a defect in the ventricular septum, it may be remembered that a loud systolic murmur is usually produced by the rush of blood through an opening between the ventricles and is heard as a rule over the whole precordium. Its greatest intensity differs in different instances, but it is usually over the body of the heart, not at the apex. Hypertrophy of both ventricles may or may not be present. The most important diagnostic point is the absence of a palpable thrill. These signs are present in this patient. Moreover, patency of the interventricular septum, according to Carpenter, who has written extensively on this subject, is the most frequent congenital defect, whether it is due to development or to inflammatory causes. It is frequently associated with other lesions, stenosis and atresia of the pulmonary artery, transposition of the great vessels and occlusion of the tricuspid orifice. The combination of pulmonary stenosis, deviation of the aortic to the right and patent septum ventriculorum is one of the most usual combinations. It is not possible to say that there is not also in this patient an open foramen ovale.

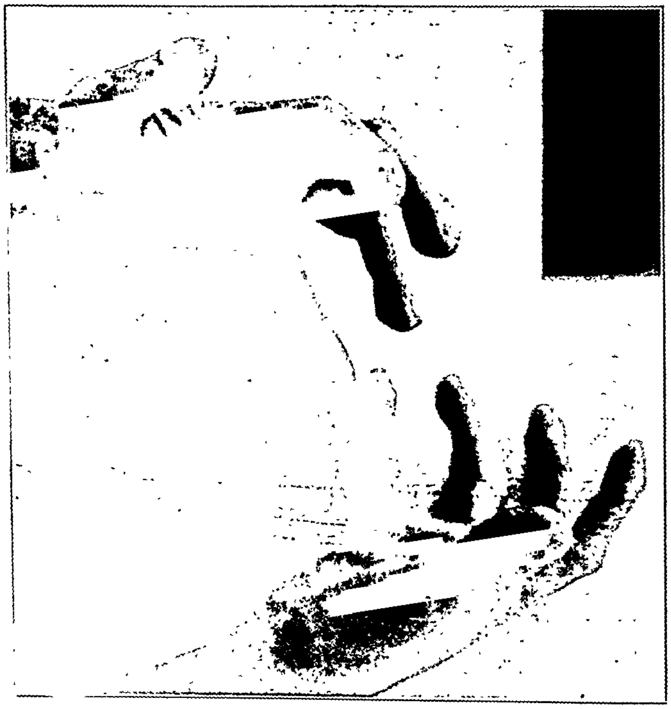

Fig. 2.—Chronic ostearthropathy in this patient due to cardiac defect.

In conclusion a word may be said regarding prognosis. Most patients with congenital heart disease, of course, die young and it is rather infrequent that such conditions are observed in adult life. Some degree of deficiency is not incompatible either with life or with hard muscular work.

A negro reported by Worcester, quoted by Babcock, dying at the age of 57 of general paralysis, showed post mortem a patent foramen ovale with a small interventricular defect. He had served through the Civil War. The patient, the subject of this paper, has been able to walk from 4 to 8 miles after his day's work was over without any inconvenience.

209 Post Street.

REPORT OF A CASE OF BRAIN TUMOR

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Patient.—Woman; aged 59; had never had a severe illness of any kind; family history good excepting that mother died of carcinoma of breast.

Clinical Course.—Somnolence: About May, 1911, it was observed by her family that frequently, while seated in a chair and conversing with those about her, she went to sleep. When aroused she resumed her conversation and carried it on in her usual manner, often going to sleep again. Throughout the course of the disease drowsiness of varying degree and irregular sleep was noticeable.

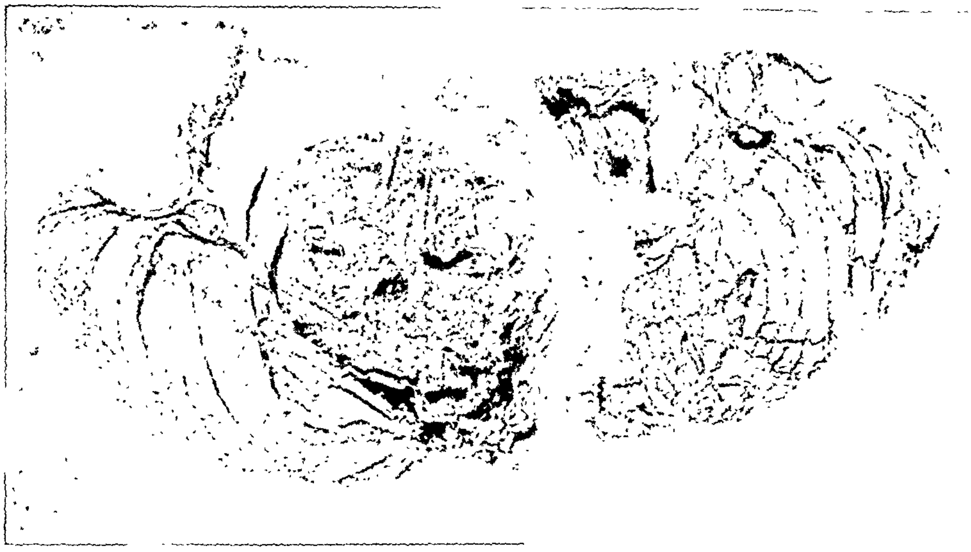

Fig. 1.—Front view of cerebellum. The tumor is to the left of the center of the illustration.

Headache: Some time during May, 1911, headaches of considerable severity appeared in the occipital region and extended to the top of the head in a diminished degree. These headaches were a prominent feature of the case until the end. During the months of September and October, 1911, they improved. In the following November they again became severe. They varied in intensity, but remained constant.

Vomiting: Two or three weeks after somnolence was first observed and at about the time the headaches appeared, vomiting began. This was preceded by nausea and required some effort. It occurred daily and was frequently repeated many times during the course of the day. The material ejected from the stomach was food in various stages of digestion and after prolonged emesis consisted of bile. This symptom continued without much variation until some time in August, 1911, when it began to improve. During September and October it was very much improved, but never disappeared. In November it became more severe and assumed the projective type. From this time until the end it was more or less troublesome all the time.

Defective Vision: A short time after the initial symptom, patient complained that she could not see so well as usual. She could not read through her glasses, which had been satisfactory until that time. Her distant vision was likewise disturbed. This symptom improved at the same time that the headache and vomiting improved. It returned at about the same time they did and became progressively worse, until patient was unable to distinguish persons or teams as they passed on the road about 100 yards away.

Vertigo: A moderate degree of vertigo occurred near the beginning and persisted to the end.

Hebetude: Patient, normally bright and intelligent, early developed an indifference to her surroundings and became mentally sluggish and dull. When addressed, it was some time before she replied. In her conversation she failed to hold to and follow out an idea. Her process of thought was slow and interrupted.

Delusions: In July, 1911, patient asked why changes had been made in the plumbing in one of the rooms of her home. There never had been any plumbing in this particular room. She insisted that there had always been water-pipes in the room and that they had recently been changed. At the same time she talked of changes that had been made in the lighting system of her home. The system had never been disturbed. In January she had delusions concerning the visit of an absent son.

Hallucinations: In July, 1911, she talked of hearing workmen about the house. There had been no sounds that could have been misinterpreted. In January, 1912, she spoke of hearing the voice of an absent son.

Paresthesia: From Sept. 1, 1911, to the middle of the following October patient complained of burning and tingling sensations of the feet.

Paralysis: In December, 1911, the left lower limb became partially paralyzed. Patient, when assisted to walk, dragged the member along on the floor after the manner of a hemiplegiac. Good use of the right hand was lost in September, 1911.

Ataxia: At about the same time that paralysis occurred in the left lower limb, ataxia developed in the right. In walking, patient threw foot out sidewise or too far ahead, seeming to have neither control over its direction nor idea as to where it would come in contact with the floor.

Disorientation: This symptom appeared in January, 1912. Patient was unable to locate pieces of furniture about the room, and was unable to decide whether they were near or far. When led to a chair, she never knew when she was near enough to sit down. At about the same time she became confused as to time and did not remember whether it was morning or evening, whether an event occurred yesterday or a week ago.

Physical Examination: In the early part of July, 1911, physical examination revealed moderate emaciation; normal heart and lungs, normal area of liver dulness; normal position of kidneys; normal position and size of stomach; neither epigastric nor abdominal distention nor tenderness; no disorder of uterus or appendages; no areas of anesthesia, hyperesthesia or paresthesia; pupillary reflex sluggish; pectoral, abdominal, patellar and plantar reflexes normal; elbow and Achilles jerks normal. All of the cranial nerves, excepting the second and third, were properly performing their functions. Stomach contents were normal; urine was normal. Blood-examination revealed a slight reduction of hemoglobin. The ophthalmoscope revealed a choked disk.

Dr. Ethel Page Westwood, who examined the eyes early in November, 1911, has kindly given me the following information: Perimetric examination of each eye revealed a contracted field. In the very center of the field, yellow was the only color distinguished. The other fields were reversed in order and contracted as well. The edges of the optic disk were blurred.

Ten days before death, patient passed into a semiconscious condition from which she roused with great difficulty and to which she immediately returned. The muscles of her neck and arms became rigid. She lay with her face turned to the left. A few days before death she became unable to swallow. Rapid respiration and a rapid heart action developed. Death occurred Feb. 20, 1912, about ten months after the initial symptoms of the disease.

Autopsy.—Each hemisphere of the cerebrum was normal in appearance except that on each side of the longitudinal fissure from a point near the occipital lobe to a point on the paracentral lobule, there extended a thin seminodular tissue formation of a pearly white color, having the gross appearance of an endothelial formation. At the paracentral lobule, the dura was adherent to the foreign tissue.

In the right hemisphere of the cerebellum in its lower and anterior portion, behind the wall of the fourth ventricle, pressing on the pons, encroaching on the space normally occupied by the vermis and extending across the cerebellar notch nearly one-half inch, was a round, dark-colored tumor about the size of an English walnut, apparently encapsulated and having about the consistency of the normal brain.

For the following pathologic report I am under obligations to Dr. A. E. Hertzler:

On cross-section the tumor is light gray with many punctiform areas of a darker color. These are spheroidal, for the most part ill-defined from the gray part surrounding. In some of these darker areas lumina can be made out, and about their border the deeper color is suffused. At the deeper part of the tumor the transition from the structure just described into the substance of the cerebellum is gradual and a line of demarcation can nowhere be made out.

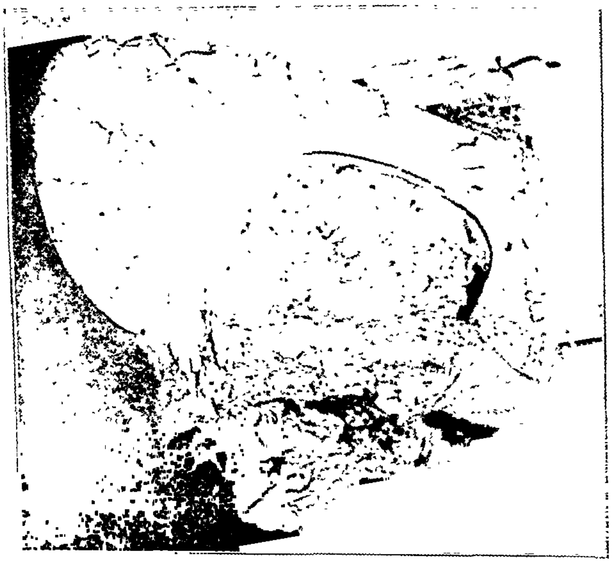

Fig. 2.—Lateral view. Section through middle of tumor.

Microscopic sections show a cellular structure abundantly punctuated with blood-vessels. The vessels contain distinct walls except in some of the smaller areas where vessel walls and cell masses are indistinctly separated. The cellular area is made up in some areas of large cells with large ovoid reticulated nuclei with rather an abundant protoplasm. In some areas small cells with round nuclei which occupy nearly the entire cell predominate. In the deeper portion these small cells form a prominent portion of the tumor, while in the free part of the tumor the large cells make up the bulk of the tumor. These large cells are in close association with the vessel walls and in some regions cannot be distinguished from their walls. In the surface of the tumor some of the large cells are distinctly elongated.

Malignant tumors of the brain have not yet been classified in a manner satisfactory to all pathologists. There is a disposition to place all malignant connective tissue tumors of the brain under the head of malignant gliomas. The problem is as involved here as the problem in tumors of the uterus. The small cells here are obviously the glia cells and correspond to the myoma cells in the uterine tumors, and it is a matter of election, so far as present knowledge goes, if we call malignant tumors resulting, malignant gliomas, gliosarcomas or simply sarcomas. This view assumes that the larger cells represent a metamorphosed small cell, a matter not beyond controversy. Their possible origin from the blood-vessel or from cells derived from the blood-stream cannot be excluded with certainty. The partial encapsulation suggests a vascular origin as a matter of fact. This relation of the tumor to the surrounding tissue would seem to speak against a glial origin of the tumor, inasmuch as gliomas are above all tumors the most exquisitely infiltrating. It is well known, however, that when gliomas undergo rapid development a pseudo-encapsulation is produced. This apparently is what has taken place here. When all these factors are taken into consideration, this tumor aligns itself most readily with the gliosarcomas according to Oppenheim's classification, though perhaps a more accurate designation would be malignant glioma as suggested by a number of recent writers.

LARGE URETHRAL CARUNCLE IN A GIRL OF NINE YEARS

A PRELIMINARY NOTE, WITH A SUMMARY OF THE SUBJECT*

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Patient.—Bertha K., aged 9, admitted to the Children's Memorial Hospital, May 31, 1911. Previous history unimportant; fell down stairs in the spring (1910) while on roller-skates. Two days later the mother discovered that there had been bleeding from about the vulva and, on examination, found a mass about the size of the end of her thumb protruding from the labia in the region of urethra. When the patient was admitted to the hospital the size of the growth had not been reduced, although it had been treated by a number of physicians. No operative treatment had thus far been undertaken. A purulent discharge was always present. There was no itching and no discomfort on urination.

Local Examination.—A tumor was seen at the external meatus, extending about a quarter of an inch upward into the urethra. Its base was spread over almost the entire circumference of the urethral canal and meatus and was thrown into a vertical fold as it protruded. When the labia minora lay in their normal relationship, they compressed the tumor laterally. The tumor surface was not eroded; an 18 French sound passed easily. There was no foreign body in the bladder; no pus could be expressed from the Skene or Bartholinian glands; hymen was intact; there was no vaginal discharge. A purulent discharge from the urethra kept the parts about the tumor moist. Vaginal smears contained no gram-negative intracellular diplococci, but they were found later.

Operation.—The tumor was excised well outside of its borders and the surrounding skin drawn into the meatus with horsehair sutures, uniting it to the urethral borders. Primary union took place. Microscopic examination of specimen showed chronic granuloma. There was no recurrence of the caruncle up to November, 1912, when examination showed the meatus relatively smooth with no contractures. Gonococci were still present in vaginal smear.

Dr. Clarence Webster, of the consulting staff, saw the patient with me and suggested that, while urethral caruncle was not at all uncommon in girls, one of so large a size was unusual and that I ought to photograph the lesion and publish a report of the case. In reflecting over my rather limited experience with this affection and the circumstances under which these few patients had come under my care, it occurred to me that really the true nature of the trouble must frequently be overlooked and painful and harmful treatments often applied, and that many of these patients did not reach the channels for proper treatment.

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*From the Children's Memorial Hospital, Surgical Department.

On looking over the current literature, I find that this subject is far less commonly discussed than its frequency and the suffering that it causes would seem to justify. I do not wish it to be understood, however, that urethral caruncle has not been both early and thoroughly discussed in the literature. The earliest writers were Samuel Sharp in 1750 and Morgagni later in the same year. J. Y. Simpson dealt with the subject at some length in 1863, and Newberger in 1894 threw new light on it; but perhaps the most recent and thoroughly classical paper was published by M. Lange in 1902. Williamson and Alter[1] give a complete bibliography to date and a thorough review of the literature.

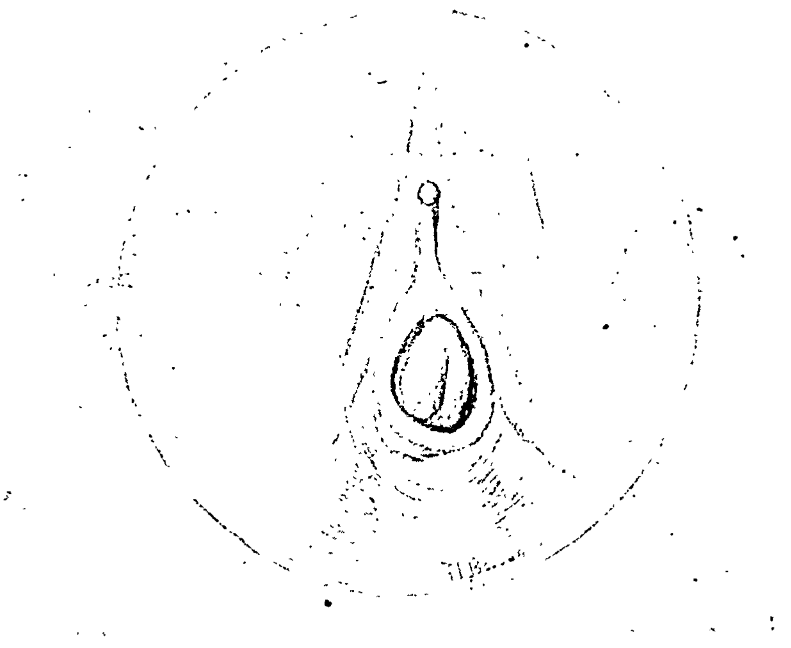

Fig 1.—Urethral caruncle before operation.

Urethral caruncles are growths covered by epithelium, unless eroded, appearing at the external urinary meatus of women and girls. Their size varies from a pin-head elevation to many times that size. I should say that the average caruncle is in volume less than the size of a half-pea. Some have small pedicles with relatively large bodies, while others are more flattened and have very broad bases. They are usually located on the lower half of the meatus and their bases often extend upward into the urethral canal. They usually vary from dark to light red in color and if pendulous are compressed laterally by the labia. Those with broad bases extending into the urethra are thrown into folds within it, usually taking the long axis. They are frequently seen in young women, especially multiparae, less frequently in young girls, in whom they do not often attain large size. Some are painless, others associated with frequent but painless micturition, and others with varying degrees of painful urination. Howard Kelly quotes J. Y. Simpson's case, in which a married woman living in the country went far from the house so that her moaning and screaming on micturating might not be heard; others, more favorably situated, have been relieved only by the use of a catheter, while it was necessary to catheterize others under anesthesia over surprisingly long periods of time.

The etiology has been much discussed but remains unsettled and offers splendid opportunities for investigation. Neither neisserian infection nor the chemistry of the urine are probably universal etiologic factors. In 1894, Newberger studied twelve consecutive cases in which gonorrhea was endemic, a strong argument in favor of its gonorrheal origin. Retention of droplets of urine in the urethral canal or beneath long or closely folded labia minora and likewise the retention of normal or abnormal secretions between the labia or folds of the meatal mucosa should be given serious consideration, acting, as they do, as sources of constant irritation and thus inducing tissue changes.

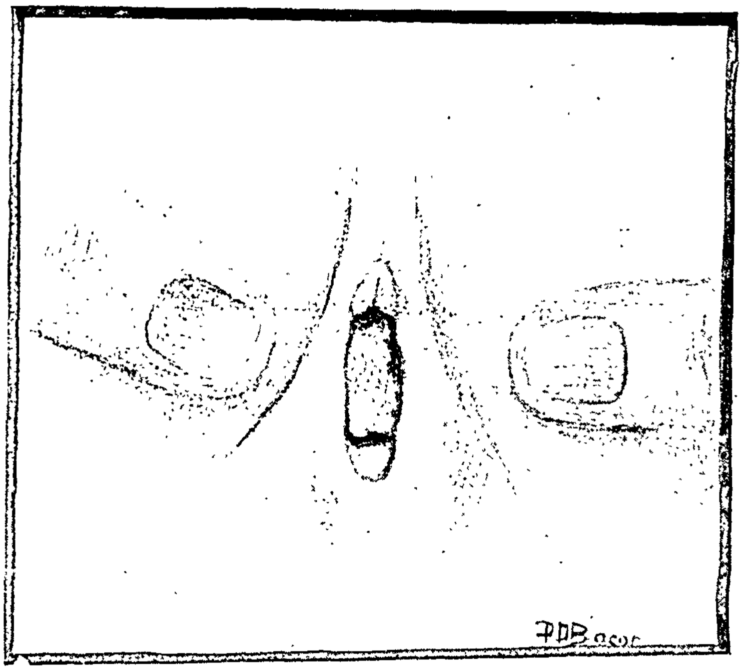

Fig. 2.—Site of urethral caruncle, about one year after operation. The slight elevations on anterior border of urethra resemble the former tumor. They are not a recurrence.

The term "papillary polypus" was given to these growths by Simon in 1850. In 1855 Verneuil described their extreme vascularity. "Urethral hemorrhoid" was the term used by Richet in 1872 and also by Hutchinson in 1874. Virchow pointed out that in many instances they differed from telangiectasis in that the lumen was not dilated nor the walls thickened. Skene in 1889 recognized marked differences in structure and proposed to classify them into six different groups accordingly.

Of the recent articles that of Lange seems to be the most generally acceptable as to classification. Between 1898 and 1901 Lange examined 1,000 women and found fifty-eight caruncles of which thirty-nine were new growths and nineteen were granulomas. Williamson and Alter examined fifteen consecutive cases and found the following:

I. Granulomas, undoubtedly of inflammatory origin.
II. Innocent new growths of much more doubtful origin and varying histologic characteristics.
    a. Epithelial covering.

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[1] Williamson and Alter: Jour. Obst. and Gynec. Brit. Empire, November, 1904, p. 365.

- b. Basis of connective tissue in which were embedded
  1. Glands having the characteristics of periurethral glands and
  2. Large and numerous vascular spaces.

J. Y. Simpson's report of Dr. John Reed's finding of a rich distribution of nerve filaments in a painful caruncle has not been verified by other observers.

It is apparent that a fairly definite classification of the histopathology of caruncles is now established and it should be emphasized that not all caruncles will belong to the same class when submitted to microscopic examination.

The results of annoyances from caruncles deserve much consideration. Loss of sleep from frequent urination, urethral tenesmus and multiple vague pains may destroy the health of an otherwise healthy woman "and in her desperation she submits to anything offering relief." The condition is usually mistaken for urethritis or cystitis. I have had one patient referred to me who had been operated on for urethral fissure, one with a diagnosis of epithelioma of the meatus, and a third with a laboratory diagnosis of small-celled sarcoma, the slide being sent in with the patient. All the growths were quite small caruncles.

Treatment is not that of irrigation of the bladder, dilatation of the urethra, or use of caustics. Temporary remissions come not from these treatments but in spite of them. Complete excision well outside and under the tumor should be performed and the wound closed so as to leave the least possible cicatrix and a wide external meatus, thus providing against stricture. When the distal portion of the urethra is excised in a circular way it should not be allowed to retract; the skin of the vestibule should be drawn in and united to the urethra by horsehair sutures. When caruncles are not completely removed they recur. Instances are recorded of primary carcinoma occurring in the urethra or periurethral glands from which caruncles had been excised.

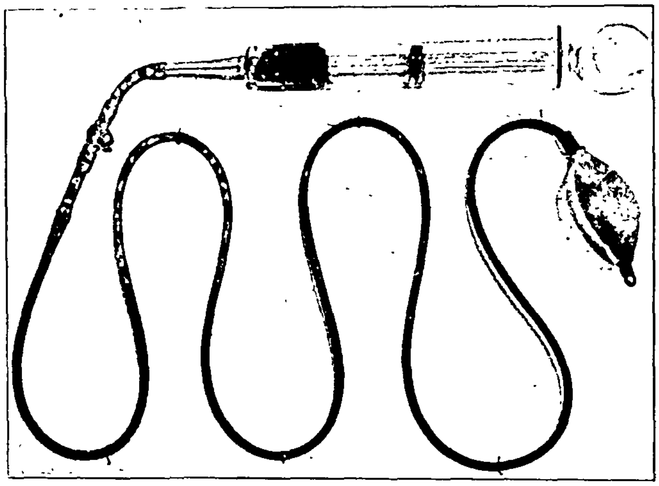
122 South Michigan Avenue.

EARLY DIAGNOSIS OF CANCER OF THE ESOPHAGUS

A NEW TECHNIC OF X-RAY EXAMINATION

ANTHONY BASSLER, M.D.
Professor of Clinical Medicine, New York Polyclinic Medical School and Hospital; Visiting Physician, New York Polyclinic Hospital; Chief Gastro-Enterologist, German Poliklinik; Visiting Gastro-Enterologist, People's Hospital
NEW YORK

It is with the hope of adding something of practical value to the diagnosis of early cancer of the gullet that I have instituted the practice of a new form of radiographic examination of it. My object was to hold the bismuth in the esophagus so that a sharper outline of it could be obtained, such as is observed when plates of the stomach are made in which the pylorus shuts on the stomach contents, allowing the bismuth to distribute itself through the entire organ, thus outlining the curvatures sharply. Since in the normal individual as well as in those who have only a small degree of cancer formation, fluids reach the cardiac end of the gullet in from five to ten seconds, and solids in about twice that length of time, it seemed to me important to plug in some way the lower end of the tube so that the bismuth introduced could fill the gullet and give a sharp outline of its walls, such for instance, as is produced when a cardiospasm is present or a stenosis which holds the bismuth above them.



Bassler's cardia plugger.

For this purpose, after experimenting with several methods, I concluded to use a simple apparatus made by George Tiemann and Company, which may be described as follows: To a 120 cm. (4-foot) length of rubber tubing 4 mm. in diameter, is attached a rubber bag covered with a reinforcement of silk, and having a brass tip at its lower end to give it weight. At the upper end of the tube is a cock. An ordinary surgical syringe of about 60 c.c. (2-ounce) capacity containing water is used to distend the bag, which, when distended, is fusiform in shape and measures about 10 cm. in its circumference. The tube is lubricated with glycerin and passed in the usual manner of a stomach-tube, or a mandrin may be employed to assist in its introduction. It is allowed to go down to beyond a mark made on the tube about 40 cm. (15¾ inches) from the upper end of the bag. The bag is then in the stomach, after which it is filled with water by means of the syringe. When this is done, the cock is closed and the tube is pulled on so that the bag is drawn tightly into the funnel-shaped cardiac orifice of the stomach. The patient is now told to exhale completely so as to raise the dome of the diaphragm to a high level, and the external tube is held tightly at this point. It is then fastened about the forehead of the patient, a double knot being employed to hold it, or in some instances it may be fastened around the neck. This is decided according to whether the patients have an opening in the teeth line, because it is desirable to have the tube rest on the gum rather than over the sharp edges of the teeth. In most instances, for comfort and quick work, an external weight may be employed to hold the bag tightly against the cardia (this is now my preference). Any weight of from one-half to one pound answers for the purpose There is no danger of the tube breaking because there is a silk string inside the tube to keep it from stretching too far. At the same time, the length of the string within the tube is such as to permit the first 40 cm. to stretch 2 inches, this being made so as to allow for the excursion of the diaphragm in ordinary respiration which is about 2 inches at this part of it. When this has been accomplished, a mixture of bismuth, acacia and water is run into the gullet from an irrigating jar by means of an ordinary urethral catheter, preference being given to one of large size in order to have a stiffness for ready introduction.

A study of a number of cardiospasm plates wherein there is only a slight degree of dilatation of the esophagus shows that the diameter of the gullet throughout its entire course runs about 3 cm., and the length of the normal gullet is about 23 cm. This capacity may be taken as a high standard for size, and represents about 160 c.c. It is wise to fill the gullet for an examination. Therefore 150 c.c. of suspension are placed in the irrigating jar and allowed to flow in until the bismuth mixture appears in the mouth, when one knows that the gullet is filled. With the patient standing, radiographs are then taken in the lateral dorsal position with the left back to the plate. These plates may be stereoscoped. Such plates then show the outline of the gullet and its normal narrowings as well as any changes present.

It is evident that by this method of examination irregularities of the walls of the gullet can be observed, and also it is rendered possible to make a diagnosis of carcinoma of the gullet long before stenosis appears. After the plates are taken, the tube is untied or the weight taken off and the relaxation of tension permits the bismuth mixture to flow into the stomach. The cock is then opened and the water siphons out of the bag, particularly when it is drawn into the gullet a little to encourage its collapse. Following this, fluoroscopic observations or plates of the stomach may be made. The regular employment of this method of examining the esophagus in *x*-ray examination of the alimentary tract is recommended as a routine. When stenosis is present it is not practical and is unnecessary for diagnosis.

126 East Sixtieth Street.

SIMPLIFIED TRANSFUSION *

SAXTON POPE, M.D.
SAN FRANCISCO

The transfusion of blood is of undoubted benefit in several diseases, and in surgery it holds a well-established position, with an increasing field of utility. But the technical difficulties of this rather delicate operation interfere with its more frequent employment. The usual methods, those of the Carrel suture and the Crile and Elsberg cannulas, require considerable experience, and the first attempts of the surgeon are often unsuccessful.

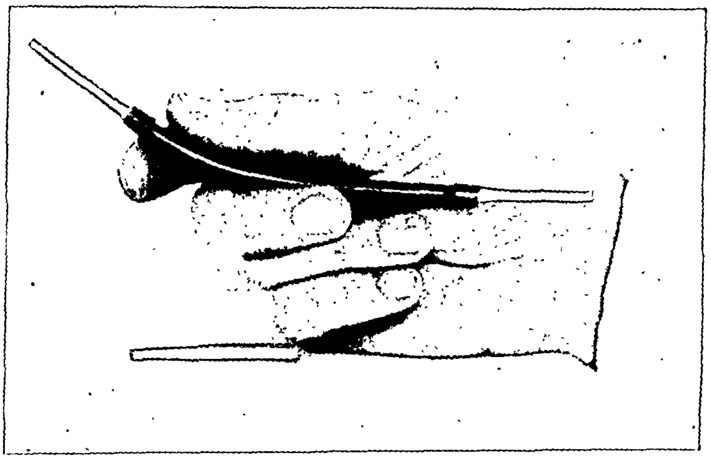
The Brewer tube is much simpler and apparently serves quite as well as the first-named methods. Even with this, as with the cannula and suture, the difficulty lies in the fact that the limbs of the donor and recipient maintain a position which interferes materially with the surgeon's work, and at the critical moment any slight movement may disturb the anastomosis or prevent a perfect transfusion.

To obviate this, for some time past in the research laboratory, we have used a rubber tube with small glass tips as a connecting medium. The interior of this tube is coated with a mixture of petrolatum and paraffin.

Such a method, of course, is not new. Guerin in 1875 used rubber tubing to perform transfusion and earlier experimenters used similar appliances. But since Carrel has shown that glass tubes coated with paraffin may remain in the aorta for months, and that similarly treated rubber tubing may be used to replace resected portions of an artery, without the production of thrombosis, the failure of earlier methods of this character may be overcome.

Our cannula is made of a piece of rubber catheter. The tips are easily drawn from glass tubing, over a Bunsen flame, and may be of various calibers. They should be slightly flared at the point and smooth at each end. The connected tube and tips should be boiled in equal parts of white petrolatum and paraffin. Great caution should be observed that this coating be evenly distributed, and that no bare surfaces occur in the cannula. The usual technic of transfusion may then be followed.

Under surgical asepsis, and novocain anesthesia, about an inch of radial artery of the donor is exposed, its lateral branches ligated, cleaned of adventitia, smeared with sterile petrolatum and ligated below. A clamp is gently applied above, and the vessel cut diagonally upward, half across. A mosquito hemostat is attached to the triangular bit of artery thus formed. This renders the introduction of the cannula easy. It may now be introduced and a ligature put about it. A short section of median basilic or median cephalic vein of the recipient is then exposed, cleaned, coated with petrolatum, ligated below, clamped above and cut as was the artery. The arms of donor and recipient are laid side by side and the arterial clamp released sufficiently to allow the tube to fill with blood. The free tip of the cannula is then introduced into the vein, and ligated in position. The clamp is removed from the vein, then from the artery and the transfusion started. During the active transference of blood, the tube can be seen and felt to pulsate vigorously.



Author's cannula for blood transfusion.

Usually in ten or fifteen minutes sufficient blood is transfused for all purposes. Much depends, however, on the relative size of the two subjects, the needs of one and the strength of the other. Hemoglobin tests should be made, but clinical judgment is at present our best guide. In our work on dogs, reciprocal transfusion has been maintained by this tube for periods over half an hour, with no evidence of clotting. In the human being, after fifteen minutes of active transfusion, spurting still occurred from the cannula when disconnected from the vein. Should thrombosis supervene, as it may in any method with imperfect technic, it would be highly injudicious to attempt to dislodge the clot without first disconnecting the cannula.

With this advice, a blood transfusion is hardly more difficult than any intravenous injection.

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* From the Research Laboratory of the Medical Department of the University of California.

TWO NEW CIRCULAR BONE-SAWS

FRED. C. ZAPFFE, M.D.
CHICAGO

These two saws are exceedingly useful in bone-cutting work. One (Fig. 1) was designed by me for the purpose of removing the transplant from the crest of the tibia in accordance with the technic of Dr. J. B. Murphy. It is a circular cross-cut saw, 1 inch in diameter and one-sixteenth inch thick, with a shank about 4 inches in length adapted to the Neff Victor motor handle (Fig. 2). The guard (Fig. 2, A), which is attached to the handle, carries at right angles to it a short movable rod (Fig. 2, B), which is adjustable (1) so that the size of the transplant can be regulated, (2) to steady the saw and prevent it from injuring the soft tissues, and (3) to keep it in a straight line. It cuts the bone rapidly, saving time and energy. The diameter and thickness of the saw depend on the character of the work to be done.

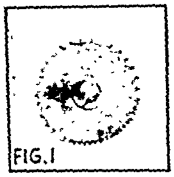
FIG. 1

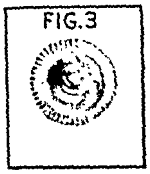
FIG. 3

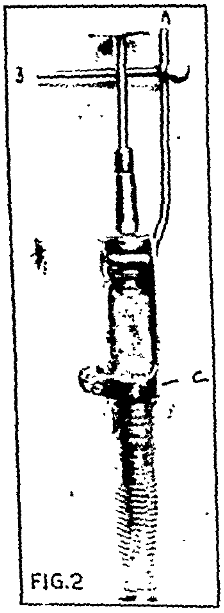

FIG. 2

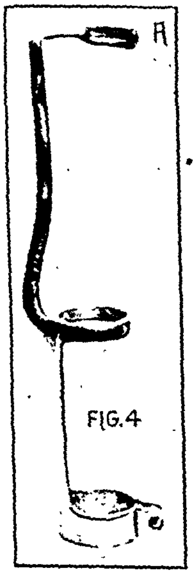

FIG. 4

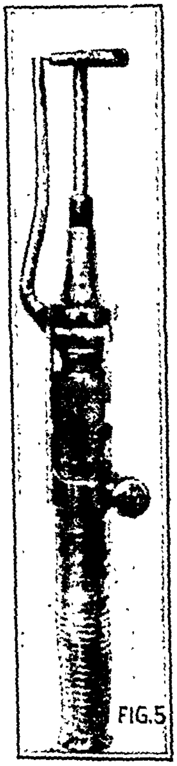
FIG. 5

Fig. 1.—Face view of ordinary bone-saw. This and the saw shown in Figure 3 are slightly smaller than the ones now in use, but may be made of any size. They are attached to the shank by means of the screws.

Fig. 2.—Bone-saw set up in electric Victor drill handle, with guard (A, B, C) attached.

Fig. 3.—Face view of skull or osteal flap saw.

Fig. 4.—The dura guard. By reference to Figure 3, it is seen that the saw is just over the groove in the outrigger A, which is placed into the trephine hole and pushes the dura away from the bone as the saw advances.

Fig. 5.—The osteal flap saw set up in electric motor-drill handle with dura guard in place.

The second saw (Fig. 3) is used for removing the bone flap in skull work. It differs from the first saw described in that it has heavy overhanging cutting edges and it is not cross-cut. The side cutting edges permit of making a bone flap 1 inch in diameter, much smaller than is necessary in most cases.

The dura guard (Fig. 4, A) which is used with this saw absolutely fulfils all the requirements. A trephine opening is made in the skull, and then the dura guard is slipped into it. It pushes the dura away from the skull and protects it from injury by the saw. A bone flap of any size can be made with this saw in less than a minute. It makes a clean cut 3/16 of an inch wide. The width of the saw may be increased or diminished, thus regulating the width of the cut. These saws and guards are not expensive; they are simple in construction and easily handled. They can be driven by electric, foot or hand power.

I am indebted to Sharp and Smith for their assistance in working out these instruments.

32 North State Street.

RETROCECAL APPENDICITIS

JABEZ N. JACKSON, A.M., M.D.
KANSAS CITY, MO.

In the voluminous literature on appendicitis one finds but little particular attention paid to the peculiar characteristics and sequences of inflammation of this organ when of the retrocecal or retroperitoneal type in anatomic location. And yet anatomic observations have shown that in about 20 per cent. of all subjects this position of the appendix is found. I have had a rather large proportion of cases of retrocecal appendicitis, and have been impressed with certain features which affect the diagnosis, prognosis and treatment to such an extent that it has seemed worthy of more attention than has usually been accorded.

In the more normal anatomic type the appendix from the base of the cecum passes more or less downward or downward and inward, and becomes an organ more or less associated with the large peritoneal fossae. In consequence, when it becomes the seat of an acute inflammation we have associated a greater or less degree of diffuse peritonitis involving both the contiguous viscera of the greater cavity and the anterior parietes. And it is this associated peritonitis which is responsible for those most marked symptoms which make its picture characteristic and its diagnosis relatively easy. We to-day recognize the fact that in the earlier stages of appendicitis the symptoms are largely referred to the epigastrium or stomach, and are represented by clinical signs, epigastric pain and vomiting. When the infection has progressed further and reaches the peritoneal envelope these epigastric symptoms largely give way, and in their stead the local pain, tenderness and rectus rigidity resultant from peritoneal irritation or inflammation manifest themselves and become the final diagnostic signs. These signs vary in rather important ratio with the extent of peritoneum involved; hence it is that, after all, our index to ordinary diagnosis is the attendant peritonitis rather than the appendicitis itself. Particularly is this true of the peritonitis which involves the parietal wall, for from this source we recognize to-day the principal symptoms, local pain and rigidity, arise.

In the retrocecal type of appendix, the anatomic relation of the appendix to the general peritoneum is quite different, and in consequence the sequelae of infection are in a measure quite distinctive. The term "retrocecal appendix" refers in general to that type of appendix which from its origin at the base of the cecum runs more or less directly upward or slightly outward and upward and is placed either directly behind the cecum and ascending colon or at least under cover of their overlap on the outer side. I have found indeed four rather separate anatomic subvarieties of the general postcecal type:

1. The appendix, possessing its usual mesentery, is distinctive only in the fact that it runs upward along the outer side of the colon, which overhangs and confines it in the limited peritoneal space external to the colon (Fig. 1).

2. In another type the appendix runs upward external to the colon under cover of the peritoneum of the posterior parietes, which forms its investment usually incomplete on its posterior circumference, and even though complete not furnishing a mesentery proper (Fig. 2).

3. Again we have found the appendix running up along the external wall of the colon itself and invested by its proper tunic and likewise without mesentery (Fig. 3).

4. In the fourth type the appendix runs upward directly behind the colon, beneath which it is buried in connective tissue entirely and has no direct peritoneal investment whatsoever (Fig. 4)

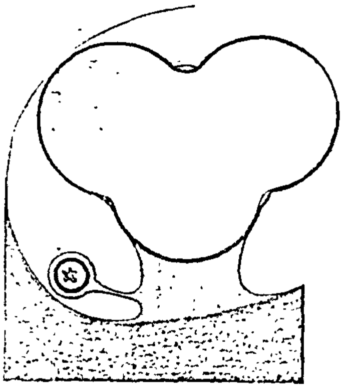

Fig 1.—Type 1 of retrocecal appendix with mesentery.

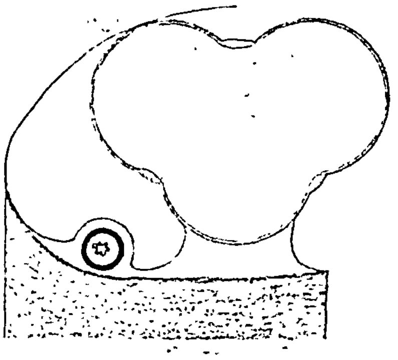

Fig. 2.—Type 2 of retrocecal appendix beneath, but only partly invested by parietal peritoneum.

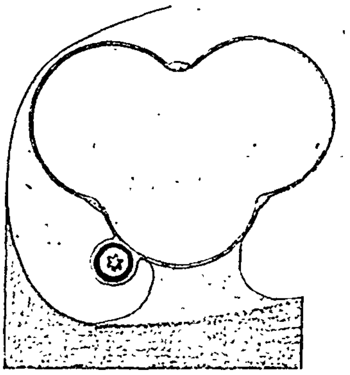

Fig. 3.—Type 3 of retrocecal appendix running alongside of colon and invested in part by the peritoneum of the colon itself.

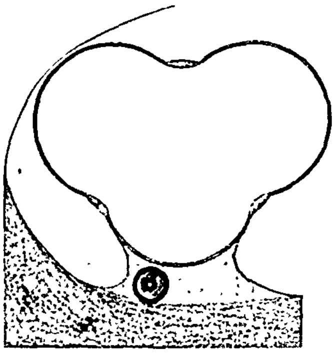

Fig. 4.—Type 4 of retrocecal appendix entirely behind the colon with no peritoneal envelope.

In the first of these varieties therefore we have an intraperitoneal appendix with mesentery; in the second and third varieties we have rather a subperitoneal appendix; while in the fourth we have truly a retroperitoneal or extraperitoneal appendix A recognition of these anatomic types of the retrocecal appendix will prove interesting in the observation of certain sequences of infection of the organ.

In the chronic or subacute varieties of appendicitis, the retrocecal type will present no particular significance, except that the tenderness incident thereto is situated rather far out, extends upward and backward toward the kidney and posterior under surface of the liver, often presents a particular spot of tenderness on pressure above the crest of ilium behind, and can thus frequently be anticipated prior to opening the abdomen. It is furthermore of interest in explaining the fact that so many patients are reported by amateur surgeons as lacking an appendix because they fail to recognize this type of appendix and do not know how to find it after they are in the abdomen. Its detection will require a good exposure of the extracolic fossa, and in the extraperitoneal variety the outer leaf of the mesocolon may have to be first incised and the colon partially lifted up from its bed. Unless of the first type, it will present no mesentery, when found, and will require enucleation instead of mesenteric ligation.

In the more acute infections certain other characteristics may be worthy of consideration. In the first place in nearly all cases the attendant peritonitis is quite restricted and is confined pretty accurately to the extracolic fossa. In fact, the appendix is so thoroughly overlapped by the colon that early adhesions often confine the peritonitis to a limited area close down at the base of the outer leaf of the mesocolon, practically entirely subcolonic. In some instances in which the infection is most obvious here, particularly when perforation occurs at this point, we may have a leakage and extension of peritonitis downward into the pelvis (Fig. 8) as well as backward and upward along the outer side of the colon. In fact, the presence of this lower pelvic infection may lead one to overlook the extension backward and upward and to content oneself with drainage of the pelvis alone, while a posterior infection is allowed to continue its course unrecognized, an error which led to several fatalities in my early experience.

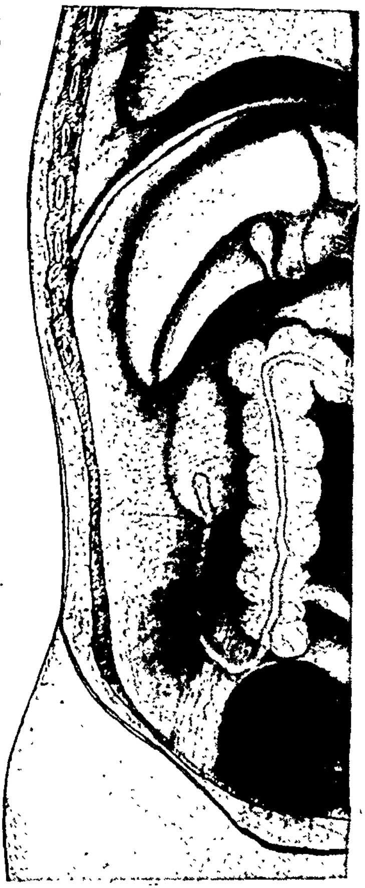

Fig. 5.—Course of the more usual type of retrocecal appendix with routes of peritoneal extension obvious by exaggerated anatomic arrangement.

While I have stated that the peritonitis is here restricted, I should modify this statement as intended only in so far as the involvement of the general peritoneal cavity is concerned. As a matter of prime importance we must recognize that in this restricted area outside of the colon a very important, possibly extensive and dangerous extension of peritoneal infection may be going on often unappreciated and unrecognized because of its somewhat hidden site. This is the upward extension of peritonitis along the outer side of the colon into the loin and onward toward the under surface of the liver (Fig. 5). Reaching here it may follow around, now forward above the hepatic flexure of the colon beneath the liver, and result in a subhepatic abscess (Fig. 8) or may further invade more or less extensively the upper peritoneal cavity beneath the liver. More usually, following gravity it reaches the low fossa behind the liver, passes upward between the liver and diaphragm, and results in a subphrenic peritonitis, often terminating in an obscure subphrenic abscess. From here the infection may pass through the diaphragm into the pleural cavity with resultant empyema; or in the event of lung adhesions may break into the lung itself and produce a lung abscess, or rupture into a bronchus and thus be evacuated with a possible septic bronchitis added. In fact, in one of my cases death ensued rapidly from rupture of such an abscess into a bronchus, coughed up and inspired, with virtual drowning of the unfortunate child. Surely with these possibilities of lumbar abscess, pulmonary abscess, subhepatic abscess or peritonitis, subphrenic abscess, empyema thoracis and septic bronchitis or pneumonia, Deaver was justified in the statement attributed to him that "the retrocecal appendicitis is a bad type of appendicitis."

But outside of peritonitis and its extension there are further factors of peculiar importance. In all save the first type of my classification it will be observed that the appendix is in some part at least extraperitoneal or retroperitoneal. Infection may therefore spread to the cellular and other retroperitoneal tissues as well as to the peritoneum. A cellulitis is therefore one of the further dangers and may occur with or without a coincident peritonitis. This cellulitis may become localized or diffuse, may extend by continuity of the retroperitoneal space or may be diffused through the subperitoneal lymphatics. Also, as a matter of distinctive significance, the infection in this retroperitoneal space may extend to involve the colonic blood-vessels, particularly the veins, and give rise to infective phlebitis with dissemination to different parts of the body, more particularly to the liver (Fig. 6).

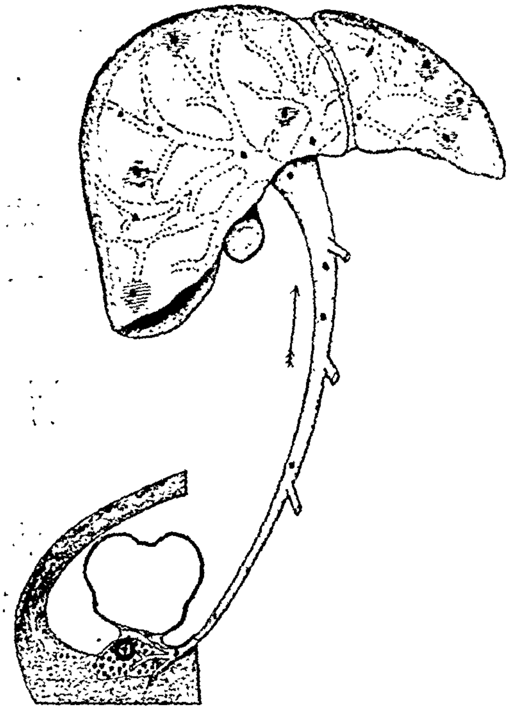

Fig. 6.—Figure illustrating how, with a retrocecal abscess, thrombi may pass into the portal with secondary liver abscess.

By direct extension through the retroperitoneal connective tissue it is easy to imagine how extensive the infection may become, and should the patient survive the general sepsis sufficiently long, how varied may be the points of presentation of the ensuing abscess. In one of my cases the entire perinephritic space was involved to such an extent that on posterior incision for drainage the kidney almost floated out of the wound. Many cases of perinephritic abscess may thus be explained. In the case just mentioned, the posterior drainage instituted did not suffice to prevent death, and on autopsy it was found that the infection passing behind the peritoneum had crossed the spine to the opposite side (Fig. 7), where an equally extensive abscess had been left unrecognized. In another case the abscess had occurred in the psoas magnus muscle, which had been largely destroyed with an abscess extending from the pelvic brim well up toward the diaphragm. In another case the infection spread through the parietal wall posteriorly and laterally and then followed down the thigh on its anterior and outer aspect to the knee. These few instances are sufficient to illustrate the multiform direction of extension as met in my limited experience, and might be almost indefinitely extended if recourse were made to general literature.

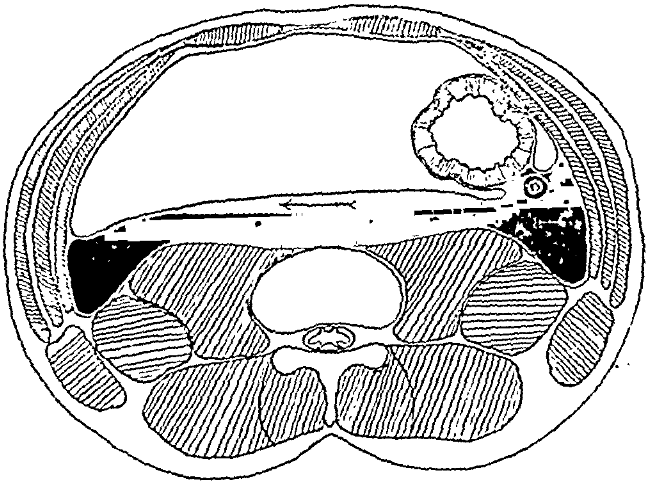

Fig. 7.—The black shading shows how pus may pass behind the peritoneum across the median line to the left lumbar fossa.

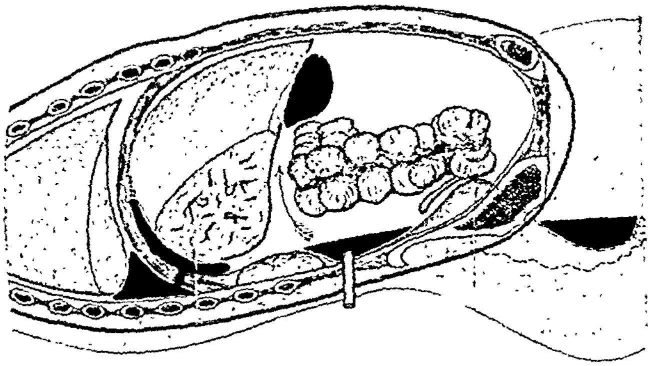

Fig. 8.—Shaded areas illustrate fossae of pus, the route of extension and the importance of the posterior drainage in recumbent patient.

The possibilities of extension by the portal radicals is also of importance. I have had the unfortunate privilege of making an autopsy in two of my own cases with multiple and surgically hopeless liver abscesses, resultant from a small retroperitoneal abscess (Fig. 6) unrecognized in time for any hope from surgical intervention.

This hasty and brief sketch limited to personal experience is sufficient, I think, to illustrate the importance of special study of the particular features of retrocecal appendicitis, which in my judgment more than any other type requires early diagnosis and prompt and in some respects special surgical attention.

SYMPTOMS

From what has been said about the special anatomic relations of the retrocecal appendix we are prepared to appreciate some of the peculiar features of symptomatology and the necessity often of very close study to arrive at a correct early diagnosis. In my judgment the difficulty of diagnosis, particularly in the hands of the general practitioner into whose care all cases first come, and the consequent failure to secure prompt or proper surgical care are responsible for the designation of Deaver, "the bad appendix." And it is particularly the absence of a diffuse peritonitis which leads to the failures of diagnosis, since, as I noted in my introduction, it is on the distinctive features of peritonitis, particularly of parietal peritonitis, that we have mainly relied for diagnosis. In retrocecal appendicitis these symptoms may all be largely lacking, or if present at the onset may quickly disappear. I have thus frequently had medical confrères remark, "We thought at the onset that we had a case of appendicitis, but the symptoms of this quickly disappeared and since we have been at a loss to know what was the trouble." This remark serves to illustrate the important significance of the early symptoms, and the general failure to appreciate the transition to those peculiar to the retrocecal type. I shall here refer only to the acute variety of appendicitis, as the subacute or chronic presents no clinical peculiarities other than before mentioned.

Epigastric Pain.—The primary epigastric pain is usually marked in this type as in others of acute appendicitis.

Vomiting.—Vomiting usually accompanies or follows the epigastric pain as in the ordinary case.

Local Pain and Tenderness.—In the usual intraperitoneal appendix case, the epigastric pain and vomiting are followed in a short time by a transfer of pain of acute type to the lower abdomen and perhaps to the region of the appendix in particular, this is attended by a marked tenderness, either local or diffuse, over the lower abdomen in general. This lower abdominal pain and tenderness is not only marked but persistent, unless sudden perforation supervenes. These symptoms are in large measure the indication of approaching or present more or less diffuse peritoneal involvement. And here the divergence in symptoms begins. In the retrocecal type there is usually some pain and tenderness in the region of the appendix. This pain, however, is not usually so severe, and the tenderness is much more circumscribed. Then as the causative peritonitis is usually quickly localized under and behind the outer side of the colon, with exceedingly slight or no involvement of the anterior parietal peritoneum, the pain becomes either markedly decreased or may practically disappear entirely. Likewise the tenderness hidden behind the cecum becomes diminished and may be entirely missing on palpation over the abdomen in front. Pressure from behind just above the crest of the ilium and in the loin almost invariably elicits, however, often unsuspected, even by the patient, tenderness more or less acute. And herein is presented one symptom elicited by proper examination which is very significant indeed when associated with the primary symptoms above noted, and which should be definitely borne in mind in this connection.

Abdominal Rigidity.—Abdominal or rectus rigidity, so significant in the intraperitoneal appendix, here is likewise usually of transitory presence. What rigidity remains after the first onset is limited to the later abdominal muscles, and the rectus may become soft and negative.

Abdominal Distention.—More or less distinct abdominal distention marks the normal appendicitis because of the involvement in the peritonitis of the adjacent small intestines. In the retrocecal type, on the other hand, the peritonitis is restricted to the colon, and the small intestines are not involved. The accompanying distention may therefore be entirely lacking or, if present, moderate and soft.

Tumor.—In the general type of appendicitis, particularly when leakage occurs, we soon have a distinct tumor mass easily recognized through the anterior abdominal wall. The edema of the contiguous intestines will present an apparent tumor often even though there be little or no leakage or peritoneal exudate. With the retrocecal appendix whatever edema or leakage or exudate may be present is under cover of the overlying colon filled with gas, fluids and feces and often cannot be recognized at all. If found at all it will be well outward and backward, and often present only in the loin.

Temperature and Pulse.—The temperature elevation and pulse increase are of course present as in any infection. It is noteworthy that they persist even after the local signs apparently disappear. This persistent high temperature, after the subsidence of local signs has led many a case to be diagnosed as typhoid fever, tuberculosis, malaria or one of any variety of infections characterized by fever. As a matter of fact the temperature usually remains at from 101 to 103 F., is out of proportion to local signs, and the pulse is increased in corresponding septic ratio, too high for typhoid and such infections.

Blood Examinations.—The examination of the blood is particularly serviceable here. The negative Widal may be of service in excluding typhoid, and the leukocyte count shows usually an increase in the white cells characteristic of pus infection.

Sepsis.—The general picture of septic infection will persist and increase in spite of the apparent subsidence of recognized local signs of infection, and should point the way to the recognition of at least some focus of distinct infection, only necessitating proper local assignment. But after all is said the recognition of the local area of infection rests on (1) the primary symptoms, requiring close attention to the earliest history of the case; (2) the tenderness usually found posteriorly; (3) the blood examination and other signs of pus infection.

TREATMENT

In treatment, a few points of practical significance I have found worthy of special consideration based on my own experience. It is pretty generally conceded to-day that in any case of acute appendicitis early operative interference is the proper procedure. In the retrocecal appendicitis I believe this to be of particular importance, first because of the obscurities which arise with delay, and second because of the dangerous extensions which are so apt to occur without well-marked signs to indicate their menace. If one waits until infection has spread by the continuity of peritoneum to the subphrenic space, most difficult problems of localization and management will arise. A subphrenic abscess may be very hard to locate even when we are reasonably sure of its existence somewhere; and even though located, its access is difficult and limited in its hidden site. Possibly while we hesitate, carefully seeking the spot of infection, it is already making its way through the diaphragm into the pleura, the lung or bronchus. I have faced such situations often with hesitation and uncertainty fatal to the patient.

Furthermore if we delay, in the retroperitoneal type we may permit embolic infection of the liver with multiple abscesses entirely beyond any hope of relief by surgical means or otherwise. We would therefore emphasize the need of early diagnosis and early removal of the appendix as particularly indicated in this anatomic type of appendix.

If operation can be instituted while the trouble is still confined to the appendix, there is little further to be said except that a rather larger incision is necessary to expose the appendix which probably has no mesentery, and often the incision should be rather further back than that employed for the more usual lower site.

After perforation has occurred with peritonitis and abscess some further factors are important. In opening the abdomen from anywhere in front, as customary, we will usually enter the free peritoneum, as the abscess will be hidden down beneath the colon by adhesions. It is then well to pack off well toward the median line to prevent any general infection when we later break through the adhesions into the abscess. To avoid this condition a posterior incision in the loin has been advocated, and may in some cases be advantageous. It gives little opportunity for observation, however, and makes it rather difficult to reach and deal with the stump of the appendix at the base of the cecum. If we have a rather large abscess and are content to incise and drain, it is a route to be preferred. When I expect, however, to remove the appendix at the time, as I practically always do, the anterior incision, extended backward if desired, has been my route of selection. In many cases the appendix will be found long, extending well up to the under surface of the liver, and the incision will have to be extended backward until fairly long in order to give sufficient exposure if removal of the appendix is desired.

One point I have found of great importance. It must be remembered that the space about the kidney and below the liver is at a distinctly lower level when the patient is lying down than is the iliac fossa where the base of the appendix is situated, and which is directly beneath the anterior incision. In drainage therefore if we merely put in drainage in front, as is customary in other types of appendix, we will leave a large fossa behind which may retain a considerable pool of pus (Fig. 8). This pool of pus is just at the danger-spot for the extensions which I have cited as particularly menacing in these cases. This fact was forced on my attention some years ago in a case in which I had operated. The drainage which had been put in front was apparently effective with a profuse amount of pus. And yet the patient remained unaccountably septic. After having carefully cleaned up the wound one morning, in attempting to turn the patient over to remove the Kelly pad, my hand was pushed forward from the lumbar fossa, when the clean wound immediately flooded at least a pint of pus and caused me thus to realize the inadequacy of the drainage from in front. Since this experience I always seek the lowest point of the lumbar fossa from in front, and from behind make a sufficiently large incision down to the bottom of this pouch to provide for a large drainage-tube nearly an inch in diameter. This tube is carried just far enough in to drain the bottom of this area well. Until I learned this one thing I had a mortality of at least 75 per cent. in my cases of retrocecal appendicitis, from insufficient drainage and infection which continued to spread. Since learning this lesson and invariably employing this posterior drainage the mortality has been nil, except in cases so far neglected as to have already secured the remote infections before any surgery was instituted. A cigarette drain is usually added in front as in the normal case. When the abscess is first encountered well below at the base, this extended infection behind may easily be overlooked, as has occurred in my experience once or twice, in each instance with death. The one surgical feature therefore for strict observation in retrocecal appendicular abscess is posterior lumbar drainage.

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PROPHYLACTIC VACCINATION AGAINST EPIDEMIC MENINGITIS

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With the desire to establish the value of prophylactic vaccination against epidemic cerebrospinal meningitis, experiments were undertaken by Dr. Abraham Sophian and myself during the month of April, 1912. This work was done on ten medical students who were in good health and volunteered for the work. These men were vaccinated with three doses at seven-day intervals. To half of them doses of 500 million, 1,000 million and 1,000 million were given. The other five received doses twice as large. Examinations of their blood were undertaken at once and showed an early development of agglutinins and immune bodies which increased after the second and third injections and, with considerable uniformity, reached a high degree. This work was reported in The Journal.[1]

The value of prophylactic vaccination must depend, not only on the agglutinins and immune bodies developed, but also on their persistence. If it can be shown that a considerable degree of immunity is found over a long period of time, then this is a procedure worthy of commendation.

Eleven months after the vaccinations were made I repeated the former experiments to determine what, if any, immunity could be demonstrated after the lapse of this length of time. Eight of the original ten vaccinated students were accessible. The technic used was identical with that reported in the former communication. In addition to the blood of a normal individual acting as a negative control, the blood of a student who had recovered from a severe case of meningitis just prior to the time of these vaccinations was used as a positive control. It will be noted that some of those vaccinated gave higher fixation than he.

It has been noted by many observers that agglutination tests on meningococci, as with other Gram-negative diplococci, often give very irregular results. Because of these irregular, and consequently unsatisfactory, results, the agglutination tests which were done at the time of vaccination were not repeated at this time.

It will be seen from the accompanying table that the complement-fixation tests still give uniformly high readings. It will be noted that in Cases 3 and 9 sharper fixation was obtained in the higher than in the lower dilutions. This was observed in the previous work and had been noted by Sophian and Neal[2] in their work on meningococcus strain differentiation. Another point of interest is that Cases 3, 9 and 10 show higher fixation at this time than they did at the conclusion of the former work.

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[1] Sophian, Abraham, and Black, J. H.: Prophylactic Vaccination Against Epidemic Meningitis, The Journal A. M. A., Aug. 17, 1912, p. 527.

[2] Sophian and Neal: Research Laboratory, New York City. Collected Studies. 1912.

While it is recognized that experimental vaccination of healthy individuals in the absence of an epidemic and the detection of immune bodies in their blood is an indirect way of proving its efficacy and that the method must finally be judged by its clinical application, we feel that we are justified in drawing the following conclusions from these studies:

1. Prophylactic vaccination produces a high degree of immunity in most cases, this immunity being demonstrable at the end of one year. It seems a justifiable conclusion that most individuals prophylactically vaccinated may safely consider themselves immune for at least one year. Exceptions to this will, of course, be found.

2. Some individuals may show an actual increase in immune bodies at the end of one year over those demonstrable soon after vaccination.

3. Fixation occurred with the serum of the positive control who has recovered from meningitis but this fixation did not reach as high dilutions as did that of some of those vaccinated. This has previously been found also in some others recovered from the disease.

4. Experimental evidence warrants us in concluding that prophylactic vaccination is a measure of the greatest value in the control of epidemic meningitis.

COMPLEMENT FIXATION

Case No.	Dilutions								Control
	10	20	30	50	100	150	200	250	
1	+++	+++	+++	+++	+++	±	—	—	—
2	+++	+++	++	+++	+++	+	—	—	—
3	+	+++	+++	++	+++	++	—	—	—
4	+++	+++	+++	++	+	—	—	—	—
7	+++	+++	++	++	+	++	—	—	—
8	+++	++	+++	+++	+++	++	—	—	—
9	+	+	++	++	+++	+	+	+	—
10	+++	+++	+	+++	+++	++	++	++	—
Pos. con..	+++	+++	++	+++	++	++	—	—	—
Neg. con.	—	—	—	—	—	—	—	—	—

MEDICAL ETHICS

BY A PHYSICIAN'S WIFE

Years ago my husband and I got into a little wagon, and hitched it to a star, and began our journey through the world for either failure or success. Somehow we never thought of failure, because I believed in him, and he, without any vanity or egotism, believed in himself.

After we had set up our Lares and Penates and begun our season of hoping and waiting, so trying to the young physician, I one day undertook to arrange his medical library. It was not large, of course, but well selected, and I remember some of the books. There were the immortal Gray's "Anatomy," well thumbed and well read; Gross and Agnew's "Surgery," J. M. DaCosta's "Physical Diagnosis," some of William Pepper's and other works of that period. They were the giants of those days. Over those tomes has grown the dust of years; the bell has rung, the school is out, the teachers have gone home never to come back — they are the men of yesterday.

When I came to the end of one of the shelves I found a small, cloth-covered book marked "A Code of Medical Ethics."* I had never heard of it. I sat down, in the midst of my work, and read it from cover to cover. Shall I ever forget the impression that it made on me? My whole idea of the medical profession had undergone a great change. It taught me that no commercialism could ever enter into its practice; barter and sale, trade and traffic had no place there; its nobility of purpose, its devotion to duty were paramount. Its all-pervading humanity made it divine, for it embodied the great commandment, "Thou shalt love thy neighbor as thyself."

Then the years began with their work and purpose, and the wagon, hitched to the star, carried my husband into the teaching faculty of his alma mater. I was proud and happy, and thought that he had "arrived." No, he had only begun. It was like the pendulum of a clock, night and day, toil, toil, toil. Oh, these men of to-day, what are they doing? By the munificence of some men who have made great fortunes in other lines than medicine, the men of medical research are climbing mountains of difficulty, sometimes finding their El Dorados and sometimes finding mountains far beyond.

Still achieving, still pursuing
Learn to labor and to wait.

Men in the laboratories discovering hidden diseases unseen by the naked eye, the men who have perfected the use of the Roentgen rays, the men engaged in activities for public health and the successes of sanitation, by their genius and perseverance have blazoned the way toward the happiness of many and the betterment of all.

The teacher who enters the amphitheater comes with the enthusiasm of his calling, bringing to his task his experience, his observations and his hours of study, believing that the students before him are those who stand in the vestibule of time waiting to become the "men of to-morrow."

The writer, possibly after a day of nervous strain, takes up his pen while others are sleeping or feasting, and gives to a larger field his thoughts, his opinions, his ideals and experiences, for the enlightenment of others. Then the white-robed surgeon, who day by day steps into the arena with a cool brain, a trained eye, a firm hand, and dexterous fingers, a perfect knowledge of anatomy, and reliance on asepsis, meets the lurking foe and puts the great destroyer to flight. He who saves and not destroys is greater than he who takes a city. Then there are the physicians who are in the towns and villages and countrysides; their work can better be illustrated by a little story of Henry Van Dyke's:

REWARD OF SELF-SACRIFICE

Once on a time there was a man who amassed a great fortune and built a beautiful mansion. One night he went into his library, turned up the reading-lamp, selected a book and sat down in a comfortable chair to read. Suddenly the letters seemed to fade, and he found himself on a great highway where people were all walking in the same direction. Joining one of the groups he recognized among them the village doctor of his early home, and a wave of fond recollection came over him. The years dropped away and he was a boy again.

How beloved the doctor had been! He remembered the time when his mother had been so ill and they had leaned so on this man. How thoughtful and kind and compassionate he had been! And when she was restored to health and sat again among them, how they had loved him! Sometimes in the winter nights, when snug in bed and the wind was blowing cold, he would hear the wheels of the doctor's old buggy drive over the frozen ground: and in the summer, when he came from the river after a cool bath, he would meet the doctor, covered with dust from a ride in the hot sun. Oh yes, he remembered it all.

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*Editor's Note: "A Code of Medical Ethics" is the old title. The present title of the booklet is "Principles of Medical Ethics."

Then he began to catch snatches of the conversation, and he found that all his companions had suffered troubles and trials and had practiced self-denial. Soon they came to the City Beautiful, and the guide, who met them at the gate, took them down the shining street where the many mansions are, and each entered into his own place. The guide, pointing to the most beautiful of all, told the doctor that this was his, and those who remained outside heard the happy and loving greeting which the doctor received as he entered.

At last they were all gone except the rich man and the guide, when the two had come to a field of stubble in the midst of which stood a wooden hut, the guide, pointing to the hut, said, "This is yours."

Aghast, the man cried, "Why is this?"

The guide replied, "This is all the material you sent here."

"What," said the man, "I gave money to hospitals."

"Yes."

"I gave money to charities."

"Yes, but those materials never reached here."

"Why not?" asked the man.

The guide sorrowfully replied, "There was no self-sacrifice in them — they cost you nothing." And with a groan of anguish the man awoke. It was a dream.

A TRIP ABROAD

A few years later, when our only child had finished a college course, it was decided that she and I should take a leisurely trip through Europe, leaving the professor to write his text-book. In our meanderings we reached Vienna one day and drove out to a cemetery where many illustrious dead were buried. In walking through one of the avenues I found the grave of Virchow, on which lay a large wreath of fresh flowers; on the ribbon attached I read the words, "To the Master from his affectionate students." My eyes filled with tears and a great wave of homesickness passed over me. These Germans may be scientific and phlegmatic, but they are full of sentiment, and I thought that in my own country such a thing would never be dreamed of, for no one has time to remember.

On entering the compartment of the train, the morning on which we left Vienna for Venice, we found a young man and woman as our companions, both Americans. He proved to be a graduate of one of our great universities, and in that long day we became quite friendly. He had graduated in medicine in June, and this was his wedding journey with his dear little wife. We talked a great deal about college, and one thing he told me impressed me very much. He said that one of the professors of that great institution had taken pains to give lectures on medical ethics, and I wondered if this was being done in the college which I was taught to believe great, and I determined to find out on the first opportunity.

Later, when in Rome, I stood under the Arch of Drusus, which commands the Appian Way, and as I stood there I had a vision. I did not see the great legions of Roman soldiers coming with their trophies and victories of war, but a small group of men; and as they drew nearer, one I observed was a little shorter than the others, and was in the company of a centurion. As they passed through the arch they stood inside the city. On the left side was the golden house of Nero, panoplied with all the pride of absolutism, shining and glittering in the soft sunlight. Before them was the Forum, with patrician senators in their togas, standing in groups, scheming and gesticulating—politicians, every one of them. To the right was the Basilica, from which the tones of the orator's voice could be heard. Nearby was the Colosseum, decked for a gala occasion. Not far off was a crowd of common people, pushing and shoving and grabbing tickets of admission to the Colosseum entertainment, the two upper tiers having been assigned to the public, free, on the presentation of these tickets; hence the great struggle to obtain something for nothing, as to-day.

Further along was the Palatine Hill crowned by the handsome palaces of the Caesars; below, the Circus Maximus where insane Caligula raced his horses and called them gods. There came a sound of marching feet, and a hundred Roman soldiers commanded by a centurion, passed by. And then, as I looked at the little group of men, I saw one with an illuminated countenance, a determined spirit, undaunted by the spectacle of power before him, and then my vision faded. I was a twentieth century woman standing under the old arch alone. Of the golden house of Nero not a vestige remained; the Forum was chaos; the Colosseum in ruins; the Palatine shorn of its palaces; the Circus Maximus a field of grass; the centurion and his soldiers had vanished with the centuries, and the small group of men to which I had been so much attracted had gone too. The great Roman Empire was a thing of the past. As I saw the dome of the great cathedral glistening in the soft sunlight, I thought that my hero of the Scriptures had given to the world a new empire which was established forever. And with this thought came those marvelous words of his: "Whatsoever things are true, whatsoever things are honest, whatsoever things are just, whatsoever things are pure, whatsoever things are lovely, whatsoever things are of good report, if there be any virtue or any praise, think on these things." Are not truth, honor, justice, purity, nobleness of purpose, graciousness of manner, devotion to duty, are they not lovely? Are not these the foundations, essentials, principles and ideals of ethics?

FRUITS OF THE MEETING ON THE TRAIN

One evening after our return from Europe the faculty of my husband's college dined with us, and it was my opportunity. I told the episode of the train to them, of the good professor of a great institution who taught medical ethics to the graduating class and asked if this were done in their college. They said no, only in a desultory way, as they had no room for that subject in the curriculum. I could not help expressing my regret. Judge of my surprise and delight when sometime later I was told that the next year these lectures would be arranged for and one of the professors would be appointed to teach.

There is no doubt but that young medical practitioners are often tempted, and in spite of their scientific knowledge, go wrong. The teacher who gives to the students the highest ideals of his profession may keep their eyes from tears, their feet from falling and their souls from death.

CAUSES OF THE MIGRATION OF THE OMENTUM

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The fact that the great omentum is commonly found attached to areas of inflammation in the abdomen when such areas exist has long been known to surgeons. What the compelling forces are that attract it to these foci has not been determined. The term "policeman of the abdomen" has been applied in several languages to the omentum, but what is meant by this has not been explained in any of them. Peristalsis is supposed to account for its actual movements, though there is no proof of this.

In the beginning of my studies, which were made through a glass window in the abdomen, the first thing noted was that in those conditions which are attended by the migration of the omentum the peristalsis is suppressed; and conversely in conditions (for instance, obstruction) attended by active peristalsis, there is no movement of the omentum. The explanation for this will appear later.

The constant factor observed in the migration of the omentum is that it moves only toward areas which are injured and only when the injury is attended by the formation of a fibrinous exudate and the accompanying cellular infiltration. Similar injuries not followed by fibrinous exudate and cell infiltration are not attended by movements of the omentum. This is a common observation of surgeons. If an exudate occurs into the walls of an appendix, the omentum will be found attached to it. If there is necrosis, there is no attachment of the omentum. There is no sharp dividing line between the cases of attachment and non-attachment because there is none in the degree of the ability of the tissue to react. Streptococci and to a degree the colon group are not attended by a fibrinous exudate or by an abundant cell infiltration (broadly speaking), and with such cases also leukopenia is associated. Such infections may be said to exercise no chemotaxis on the omentum. This lack of reaction can be demonstrated experimentally by means of disks of corn-pith placed in the peritoneal cavity. Ordinarily a sterilized pith excites an exudate of fibrin and cells and the omentum is attracted; but, if a bit of pith is first soaked in peptone solution, fibrinous exudate is not formed nor do cells surround it, and the omentum is quite indifferent to its presence.

When we search for microscopic differences in the two conditions we find that in one case there are numerous cells with a fibrinous exudate, and in the other there is neither fibrinous exudate nor cells. It has not been shown by experiment what reaction there may be between cells and fibrin, and especially which is the primary attractive element. For the present, therefore, it is best to treat them together.

As a preliminary statement of the forces leading to movements of the omentum, the following may be advanced: When an injury occurs, the series of processes collectively called inflammation is set in motion. Exudation of cells and formation of fibrin take place at the point of injury and also in adjacent parts of the omentum. These elements, though massed in the omentum, are attracted toward the focus of the inflammation as if they lay free in the abdominal cavity, and tend to carry the omentum along with themselves. Further than this one cannot go. It is a matter of observation that the omentum after it is attached to the inflammatory focus is always infiltrated more or less with fibrin and cells. But whether or not this infiltration occurs before it is attracted toward the site of injury or after it becomes attached is not to be solved by clinical observation alone.

In experiments with the corn-pith the omentum migrates before there is macroscopic evidence of infiltration. There is hyperemia, however, and likely some exudation of cells and fibrin-forming material. The influences which cause this hyperemia are probably the same as those which cause vascular dilatation about any inflammation, and, like them, are effectual beyond the sphere of visible cellular changes. Whatever these influences may be they are probably at least physicochemical in character, and seem to be dependent more on the fibrin formation than on the cell exudation. Under some conditions granular exudate may form which is not infiltrated by cells. It is probably more akin to a precipitate than a coagulate. The relation of omental movements to chemotaxis is emphasized by the fact that in those conditions in which there is a leukopenia or at least no leukocytosis there is no migration of the omentum. These facts will be so obvious to the surgeon that the mere mention of them is sufficient here.

To prove that the cells and fibrin-forming elements are adequate for omental movements apart from any properties inherent in the omentum itself, direct observation and microscopic study of tissue do not suffice. An artificial omentum which can be controlled is necessary for this demonstration, and for this purpose also disks of corn-pith serve very well. These when placed free in the peritoneal cavity migrate to the site of injury just as the omentum does and under the same conditions. Inherent factors cannot, therefore, be the essential ones in the movements of the omentum, and a real "police intelligence" cannot exist. The corn-pith moves only after the exudate with which it has become infiltrated coagulates into fibrin, a process associated more or less with the exudation of cells. I am strongly inclined to believe, however, that migration of the cornpith begins with the formation of the fibrin, for in earl stages few cells are present, although the fibrin i already formed and migration has taken place. Studie of the various cells as to origin, function and destin are intricate, and no unquestioned analysis of them ha been made.

My study of wound-healing has shown me that fibri bands form first and that the cells follow along these Burrows has made the same observation in studies i *vitro;* the fibrin always forms first. It appears, ther fore, that the chemotactic influence as exerted on cel is associated with the fibrin. The granular fibrin, o the other hand, does not so invite the cells. Corn-pit treated so as to prevent the deposit of fibrin fibri becomes the site of a collection of granular fibrin an of a few cells which appear to have drifted in rath than to have been positively attracted, since they lac the orderly arrangement of the cells associated wi the fibrillar fibrin. Furthermore, under these conditions, the omentum does not migrate toward the corn-pith.

The formation of fibrillar fibrin and the attraction of cells to it is allied closely to the coagulation of blood. Whatever prevents blood from coagulating prevents the preliminary step in all wound healing, including the formation of adhesions and the attraction of the omentum; that is, the formation of fibrillar fibrin. The substance that has the prominent part to play in the coagulation of blood is the *Kittsubstanz* of the blood-vessel endothelium. The same material of the peritoneal endothelium is the initial factor in the formation of adhesions. This substance strongly reduces silver nitrate and on this and other grounds I have tentatively assumed[1] that it is rich in chlorids, probably in combination with calcium. The point of interest in this connection is that the omentum is particularly rich in this *Kittsubstanz* and is therefore capable of producing an exudate when subject to irritation. Other peritoneal surfaces are less abundantly supplied, and non-peritoneal surfaces less abundantly still. (Surgeons well know that exposed muscle is less apt to form adhesions with the omentum than injured peritoneum.) The only properties which give the omentum claim to any inherent protective tendencies are the possession of the abundant *Kittsubstanz*, and its pendent state which permits free movement. (The intestinal loops have to a less extent the capacity for migration.)

CONCLUSIONS

The migrations of the omentum are not due to any peculiar inherent properties. Corn-pith migrates in the same way under the same conditions.

Fibrin formation is the preliminary requisite for migration: no fibrin, no migration.

The movements of the omentum are produced by the same forces that attract cells to any inflammatory field, and the carrying with them of the omental network is a purely accidental occurrence.

1004 Rialto Building.

SURGICAL METHOD OF CLEARING UP CHRONIC TYPHOID CARRIERS

REPORT OF TWO CASES OF REMOVAL OF THE GALL-BLADDER AND THE ENTIRE CYSTIC DUCT

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Case 1.—C. W. F., aged 27, was transferred to the Walter Reed General Hospital from Fort Benjamin Harrison, Ind., Aug. 27, 1912, suffering from a chronic biliary fistula, the result of drainage of an empyemic gall-bladder. Previous to the drainage of the empyemic condition, the patient had been unsuccessfully operated on for removal of gall-stones. The patient, who was very intelligent, denied ever having had typhoid fever, or any prolonged attacks of fever or diarrhea that might lead one to suspect a previous unrecognized attack.

On admission to the hospital, the patient was suffering from a chronic biliary fistula, which refused to stay permanently healed. For a time this condition was treated by dieting, keeping the fistulous opening and surrounding skin clean and protected by sterile dressings, and keeping the bowels loose by administering sodium phosphate each morning and occasionally a course of calomel, followed by magnesium sulphate. Under this treatment the fistula would cease discharging and stay closed for a period varying from four to ten days. After these irregular periods of closure, the patient would complain of a severe pain in the gall-bladder region. This pain would cause the patient to huddle up in bed or walk the floor in a stooping posture, holding the hands over the gall-bladder region, sweating freely, with irregular fever and wearing an agonized expression. On the passing of a probe into the gall-bladder with release of the pent-up contents, all symptoms would at once disappear.

The discharge from the gall-bladder was mostly of a clear, glairy mucous nature. Occasionally a very slight bile tinge was noticed. On the occasion of one of these probings, there was some doubt as to whether or not a stone could be felt.

The condition was diagnosed as a hydrops of the gall-bladder, and the patient was told that his cystic duct was occluded by either a calculus or cicatricial tissue, and that it was advisable to have the gall-bladder removed. Operation was not done at once, but palliative treatment kept up and the patient kept under close observation. Several roentgenograms were taken, but failed to reveal anything.

Nov. 19, 1912: Gall-bladder fistula was opened for the relief of pain, and some of the contents caught in sterile tubes and sent to the Army Medical School Laboratory for examination. Report of this examination, received November 26, showed that the specimen contained some bile pigment, a few pus cells and typhoid bacilli.

November 27: Gall-bladder contents positive for typhoid. Urine negative for typhoid. Feces positive for typhoid.

November 30 and December 3, 5, 7 and 10: Feces positive, urine negative for typhoid.

December 12, the patient was etherized, and the gall-bladder and entire cystic duct were removed. A calculus a little larger than a hazelnut was found impacted in the cystic duct. Numerous adhesions were encountered and broken up, or tied and severed between ligatures. The fossa of the gall-bladder was covered over by means of a continuous suture of catgut. The stump of the cystic duct was cauterized with phenol (carbolic acid) and alcohol. All of the scar tissue resulting from the two previous operations and the fistulous tract were removed. A cigarette drain was inserted, its lower end in close relation with the stump of the cystic duct, and the wound was then closed in the usual manner, leaving a small opening for the drain. Fluffy gauze dressings and a binder were applied. Patient left operating-room in very good condition.

Feb. 3, 1913: Patient returned to duty in good condition.

LABORATORY REPORTS ON THE PRECEDING CASE

December 16: Feces positive for typhoid.

December 18: Feces negative for typhoid. Urine negative for typhoid.

December 23: Discharge from surgical wound negative for typhoid.

December 30: Surgical wound about healed. Discharge negative for typhoid.

Jan. 3, 1913: Agglutination 1:160.

January 23 and 25: Feces negative for typhoid.

Case 2.—M. M., whose family history and early medical history had no bearing on case, stated that he was taken with diarrhea, fever and loss of weight while serving in Cavite Province, P. I., in June, 1910. He did not go on sick report or consult a medical officer for this trouble. September 5, he reported sick at the division hospital, Manila, P. I., and was sent home October 14. During this time he was placed on milk diet and given the ipecac treatment. He was sick in the Letterman General Hospital, Presidio of San Francisco, from Nov. 16, 1910, until March 20, 1911. Nov. 20, 1910, his stools were found positive for typhoid, and every week during his four months' stay there he was given the vaccine treatment against typhoid.

He arrived at the Walter Reed General Hospital, April 10, 1911, for further observation and treatment, his case to be studied in conjunction with the Army Medical School Laboratory. During the summer of 1912, for several months he received his second course of vaccine treatment against typhoid. In addition to his prolonged vaccine treatment, the patient was given the calomel treatment, the buttermilk treatment, sodium sulphite treatment, hexamethylenamin (urotropin) and salol treatment and the ipecac treatment. The patient was constipated a large part of the time while in the hospital and received frequent purges from Epsom salts and castor oil.

Appendicostomy was at one time thought of, but discarded, as was drainage of the gall-bladder, patient refusing operation.

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[1] Hertzler, Arthur E.: Tr. Am. Microscop. Soc., xxiii.

RECOVERY IN BRAIN SYPHILIS AFTER THE USE OF SALVARSAN

Nathan B. Eddy, M.D., New York

The rapid and complete recovery in this case after the use of salvarsan seemed sufficiently unique to make the case worthy of record.

Patient.—F. M., aged 34, married, laborer, was admitted to the hospital Dec. 28, 1912. The family history was of no importance. The patient was moderately alcoholic and had been drinking rather heavily just before the onset of the present illness. He had a severe syphilitic infection in 1903 for which he was treated in hospital one year and discharged as cured. There were no further symptoms until the present time.

Present Trouble.—During December 1912, the patient had several of what he calls weak spells in which he became dizzy and confused, but did not fall or lose consciousness. Shortly after a hearty dinner, about 2 p. m. Dec. 28, 1912, without prodromes, he suddenly fell to the floor in a general convulsion lasting several minutes, which was followed by complete unconsciousness.

Examination.—On admission to the hospital, about 5 p. m. of the same day, the patient was in coma from which he could be partially roused with difficulty. He showed conjugate deviation to the left with nystagmus, small equal inactive pupils, and periodic winking. The respirations were of the Cheyne-Stokes type. The heart, lungs and abdomen were negative. There was a moderate amount of arterial thickening, but the pulse tension was not high. The patient had a flaccid paralysis of the left side with lost reflexes. On the right side the reflexes were normal. Projectile vomiting occurred with incontinence of urine and feces.

Course.—During the night the coma cleared up. After 3 a. m. the patient was restless and irrational a part of the time with periods of semistupor. The pupils were now unequal, the right being larger and reacting sluggishly, the left still small and inactive, with no deviation or nystagmus. All the reflexes were normal with no sign of paralysis.

From the sudden onset and transient nature of the symptoms in a young man, with the history, obtained at this time from the patient's brother, a tentative diagnosis of cerebral syphilis was made, probably an encephalitis with localized exudation. The Wassermann reaction was reported positive December 30. December 31 the patient had again lapsed into coma from which he could hardly be roused, muttering incoherently when questioned. His condition was rapidly becoming worse; the pulse becoming more rapid and weaker with slight cyanosis of lips and finger-tips; the breathing was markedly Cheyne-Stokes. There was slight rigidity of the neck and extremities but no paralysis. The spinal cord was tapped and 40 c.c. of perfectly clear spinal fluid obtained under considerably increased pressure. A cell-count of this showed a slight increase in the total number of cells, the change being chiefly in the epithelial cells.

Treatment and Result.—The man's condition seemed desperate so that in spite of the contra-indication to the use of salvarsan in acute brain syphilis, it was decided to give him the benefit of the doubt. Accordingly, December 31, 0.4 gm. of salvarsan was given intravenously.

The next day his general condition seemed slightly improved but mentally he was the same. On the second day (Jan. 2, 1913) there was noticeable improvement. He was conscious part of the time, answered questions as to his condition clearly, insisted on feeding himself, and used both hands equally well.

From now on the progress was rapid and constant. At first he was drowsy a good deal of the time and when awake noisy, alternating between hilarity and depression. The following week he was very voluble with silly fabrications. January 25, he was permitted to get out of bed and on the 29th was walking about the ward quite himself, rational all of the time, and completely oriented, with fair memory of events immediately preceding his illness.

Further treatment was as follows: January 15, 0.3 gm. salvarsan, intravenously; January 22, 0.75 gm. neosalvarsan, intramuscularly; February 6, 0.9 gm. neosalvarsan, intramuscularly. In addition intramuscular injections each of 1/2 grain of salicylate of mercury were given once a week.

During this time the patient's temperature was constantly flat normal except for slight rise in the first twelve hours after each salvarsan injection. The urine was always negative and blood-counts were normal.

A second Wassermann reaction, Feb. 3, 1913, was still strongly positive but not quite so much so as previously.

When the patient was discharged from the hospital, Feb. 8, 1913, the pupils were normal, gait and station ordinary, heart, lungs and abdomen negative. Mentally, he showed a slight tendency to be silly and inconsequential, but according to his wife and friends recovery was quite complete.

320 Concord Avenue.

COMPLETE SITUS TRANSVERSUS

Willard J. Stone, M.D., Toledo

Reports of complete transposition of the viscera are but infrequently encountered in the literature. Because of the relative rarity of the condition, therefore, the following case report may be of interest.

History.—J. G., Italian, male, aged 22, Oak Harbor, Ohio, laborer, was admitted to the medical service at St. Vincent's Hospital, Oct. 6, 1911. The family history revealed nothing of importance. The personal history revealed no serious previous disease. The patient had never been in the tropics. His present illness began about one month prior to admission, with frequent chills and a continuous type of fever ranging daily between 101 and 103 F., during which time he had lost about 23 pounds in weight. His main complaint was referred to pain beneath the edge of the lower ribs on the left side. The patient believed that his illness was the result of an accident, which took place about one month before the illness began, in which he fell against an iron joist, striking the left side below the ribs.

Physical Examination.—The position of the apex-beat was slightly external to and below the right nipple. The area of cardiac dulness extended to the left to the midsternal line, at which point resonance was encountered continuous with resonance over the normal heart area. In the sixth interspace, left parasternal line, dulness was found which extended to the left as far as the midaxillary line and posteriorly to the angle of the scapula. This dulness in front and behind extended to the edge of the ribs and did not, on auscultation, reveal the presence of any air-containing tissue beneath. Vocal fremitus was not present, nor was this area of dulness movable on change of position. The normal liver dulness could not be made out on the right side.

The leukocyte count numbered 19,600. Examination of the urine was negative to pus and all abnormal ingredients.

Diagnosis.—It was at first thought that the patient had a so-called "sacculated" pleurisy with effusion involving the lower left chest with displacement of the heart to the right and a compensatory emphysema of the right lung, which had pushed the liver downward below its normal position. The fact, however, that dyspnea and cough were absent and that breath sounds could not be heard over the area of dulness on the left, and that the dulness was not movable on change of position, seemed to exclude such a possibility. An enormous pericardial effusion was considered, but the distinctly visible apex-beat and a distinct area of resonance between the heart dulness to the right and the dulness encountered to the left and below, rendered such a condition improbable.

Roentgen Examination.—Two days after admission skiagrams were taken by Harry W. Dachtler which clearly showed complete transposition of all the organs. The liver was found to be occupying relatively the same position on the left side as normally on the right, while the stomach was found on the right side. The heart was found in relatively its normal position as regards its long axis, except that it was on the right side.

Further History.—The leukocytes two days after admission numbered 28,400. The continuous type of temperature with evidence of sepsis and occasional slight chills made it necessary, in view of the skiagraphic findings, to consider the possibility of appendiceal abscess on the left side, a suppurating gall-bladder on the left side, a liver abscess or a subdiaphragmatic abscess likewise on the left side. The patient's greatest pain and tenderness were found to be just below the edge of the ribs, but no mass or tumefaction was present except when in the upright position at which time a slight bulging or prominence was present on the left side in the flank.

The history of previous trauma to this area and other facts finally led to a diagnosis of probable extraperitoneal perirenal abscess. An incision was therefore made in the left flank Oct. 14, 1911, by the late Dr. Peter Donnelly under nitrous oxid-oxygen anesthesia and about 6 ounces of pus evacuated from an abscess about the left kidney. Cultures from the pus showed *Staphylococcus pyogenes albus.*

After about three weeks' drainage, the patient's recovery was practically completed.

FATAL PERITONITIS DUE TO INFECTION WITH BACILLUS COLI *

Arthur L. Grover, M.D., Iowa City, Iowa

The following case of septic peritonitis is of interest as it was proved to have resulted from infection with *Bacillus coli*, and as infection of the peritoneum with the colon bacillus, through the uterus, is somewhat rare. The material from this case was referred to this laboratory by Paul Reed, M.D., Nov. 7, 1912, with the following history:

History.—Woman, aged 35, married, had a child, aged 4 months, and had menstruated atypically since delivery. She was ill for two days with severe pain in pelvis. Examination on third day showed no fever present but a foul-smelling vaginal discharge, and severe pain in pelvis. Next morning the patient had all signs of general peritonitis which rapidly grew worse. She died during the morning of the next day (fifth day after onset).

The patient denied any attempt at abortion either by herself or by any one else. Her husband admitted that the patient had previously attempted to induce abortion in a former pregnancy. At the time of her childbirth, four months previously, the patient complained of severe pain in the right side, and examination was extremely painful, the patient being prostrated following it.

Necropsy.—After the death of the patient, the uterus was removed by vagina together with some fluid from the peritoneum. The uterus was somewhat enlarged, and the wall was thickened and felt soggy. At the top and just slightly posterior was an area about 2 inches in diameter that was denuded of its peritoneum and was rough and necrotic. In the center of this spot was an opening which led into the uterine cavity. A pencil fitted nicely into this canal. When a cut through the tissues was made, along the pencil, an area of extreme necrosis, brown and extremely fragile and crumbly was found along the course of perforation. The mucosa also was inflamed throughout, was necrotic about this area of perforation and contained a slight amount of débris. Sections were made through the uterine wall at the area of perforation and showed that the process was localized in a marked necrosis of this area, severe enough to be called gangrene. The vessels throughout the uterus were congested, and hemorrhagic exudate was present on the peritoneal surface. Gram-negative bacilli were seen in the tissue about the area of necrosis.

Laboratory Findings.—A bacteriologic examination was made of the fluid removed from the peritoneal cavity. Smears showed an immense number of Gram-negative bacilli which varied somewhat in size. On agar-slants in twenty-four hours we obtained a diffuse white streak with discrete, round, white, slightly raised colonies at the periphery. A fecal odor was present. Examination showed them to be Gram-negative bacilli resembling those seen in the smears made from the peritoneal fluid.

Further cultures showed that gelatin was not liquefied, that litmus milk was curdled and made acid, that gas was found with all sugars and in fermentation tube with lactose broth and that indol was found in Dunham's peptone solution. The following litmus sugar serum water media were used: dextrose, levulose, galactose, lactose, saccharose, maltose, mannite and dextrin. All were made acid and produced gas except dextrin.

Conclusions.—From the evidence it would seem that the organism in question fulfilled all the requirements of *Bacillus coli*. According to some authorities dextrin also should have been fermented; according to others, it should not.

Cases of peritonitis caused by the colon bacillus are common, and cases of uterine infection with the same organism are common, but this combination of *B. coli* peritonitis through perforation of uterus is not common. As the patient would acknowledge nothing, no light can be thrown on the instrument used or on how such a large perforation could have been made without more shock. It is not known that the perforation was made artificially, but it seems as if no other explanation is possible, since the attending surgeon did nothing more than tampon the cervix to increase dilatation. Of course the four months since last pregnancy is sufficient time in which to become pregnant, yet one would hardly suppose that the patient could have become far enough advanced in pregnancy to be cognizant of the fact. Nevertheless in some manner the uterus became perforated. So far as it is possible to tell one would believe that the lesion was not of long standing. No attempt has been made to go through the literature on this subject.

527 North Linn Street.

BURN OF EYEBALL DUE TO CAUSTIC CONTENTS OF GOLF-BALL

L. W. Crigler, M.D., New York

William J., aged 10, on Aug. 2, 1912, while dissecting a golf-ball, ruptured the small rubber bag in the center of the ball, and the contents spurted into his right eye. This caused immediate, excruciating pain, lacrimation, photophobia, redness and edema of conjunctiva. The surface of the cornea became opaque. The child was attended by a local physician, who irrigated the conjunctival sac and applied cold compresses. The patient was first seen by me on August 7, five days after the injury. The eye presented the picture of a typical caustic burn of the cornea and conjunctiva. The conjunctiva showed numerous areas of necrosis, some large, some small. The cornea was opaque to the extent of being almost white. The destruction had extended into the substantia propria; the pupillary border of the iris could scarcely be seen, and vision was reduced to shadows. The patient was admitted to the hospital and the usual remedies were applied, with no material alteration of the progress of the case toward cicatrization. The eyeball remained irritable and painful. At one time during the height of the inflammation the tension seemed increased. This was followed by a gradual diminution of tension until the eye became quite soft. It looked as if it were going on to phthisis. After the more aggravated symptoms were relieved, the child was allowed to go home, making subsequent visits to the hospital once a week up to the present. The cornea is becoming slightly more transparent, and the areas of necrosis in the conjunctiva have undergone cicatrization. The palpebral conjunctiva escaped a great deal of the caustic action of the alkali. Vision in the eye is slightly improved, the patient being able to count fingers at one foot.

An analysis of the paste in the center of a golf-ball said to be of similar make to the one causing the accident showed that it consisted of a mixture of barium sulphate, soap and a free alkali (sodium hydroxid, 2.4 per cent.).

40 East Forty-First Street.

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Special Article

BACTERIAL VACCINE THERAPY: ITS INDICATIONS AND LIMITATIONS [*]

INTRODUCTORY CONSIDERATIONS

RAPID DEVELOPMENT AND EXTENSIVE USE

From comparatively small beginnings, the practice of what is now called bacterial vaccine therapy has come to assume proportions of great magnitude. Six or seven years ago an occasional worker well trained in the methods of bacteriology and immunology prudently felt his way in the pursuit of opsonic therapy, as it was then called. At present a large number of practicing physicians are inoculating their patients with bacterial vaccines. There has been a vast stride in an incredibly short interval.

A few years ago all bacterial vaccines were prepared from the patient's own lesions and reintroduced into that patient for therapeutic purposes (the so-called "autogenous" vaccines); to-day vaccines of all probable (and no doubt some improbable) pathogenic bacteria are procurable in the market, ready for use, with real or fanciful indications for their employment. This too has been an amazing development

Formerly the autogenous bacterial vaccines were cautiously administered by the expert bacteriotherapeutist under the guidance of the opsonic index. Now any physician, although incapable of making a bacteriologic diagnosis and without special training or acquired skill, is supposed to be competent to inoculate patients with all sorts of commercial vaccines, employing no accurate check on the results. This marks a transition so abrupt, so revolutionary and so unprecedented in medicine that it behooves us to pause and to ponder deliberately; for at this juncture (to paraphrase from its own terminology), we are in what may be styled the "positive phase" of bacterial vaccine therapy, and we must determine whether it is to be followed by a disastrous "negative phase," or to be directed to a sustained "high tide" of creditable success.

No other new and special field of medicine calling for extraordinary and often prolonged training has been so quickly invaded by the mass of the profession. In little more than half a decade a method of biologic treatment of unusual intricacy, the value and limitations of which are still far from being accurately determined, has gone into the hands of the medical profession as a whole. Although the profession does not recognize that a scalpel and a license to practice make of any physician a skilled and competent surgeon, it has come to pass that the possession of a syringe and a bulb of commercial stock vaccine implies an expert bacteriotherapeutist.

ADVENT OF COMMERCIAL VACCINES

In the pioneer days of this new method of treating disease the remedial agents (bacterial vaccines) were usually of the variety known as personal or autogenous. At any rate they were prepared by skilled bacteriologists who had thoroughly qualified themselves for this particular task and who had made the bacteriologic diagnosis. The administration of these vaccines, when not undertaken by their maker, was performed under his guidance. In this manner a close personal touch of the expert with the patient was assured.

The striking success which not uncommonly followed the use of these bacterial vaccines attracted the attention of physicians in general through direct observation of a given patient, from hearsay through other physicians, or even through the reports of other patients. The request for serum or vaccine treatment by patients themselves played its not inconsiderable part. As an outcome of this kind of suggestion, a demand arose for some alternative which would permit the new treatment to be instituted by physicians whose previous training had not qualified them to perform the requisite bacteriologic examinations or to make the necessary bacterial vaccines. It was to meet this demand that the commercial production and exploitation of bacterial vaccines arose.

For a few of the more obvious infections like boils or carbuncles in which the bacterial causative factor has been pretty thoroughly established, there is no great difficulty in selecting a corresponding vaccine; but in a large range of infections in which different bacterial species produce the morbid condition, as pharyngitis, in which the staphylococcus, streptococcus, pneumococcus, pneumobacillus or influenza bacillus or a combination may act as offending parasites, a difficult task confronts the practitioner.

It was to meet this emergency, solely the outcome of unscientific procedure, that there arose the unscientific practice of using "mixed" vaccines — vaccines compounded to include a number of different bacterial species in a single dose, aimed at the undetermined infection after a kind of "shotgun" logic, in the hope that one of the components would perhaps hit the mark. Further, there is the case of mixed infection in which more than a single bacterial species is active; here again it becomes a question of accurate bacteriologic analysis and the use of the indicated autogenous or corresponding stock vaccines. As the remedy for this lack of skill, mixed stock vaccines, often fantastic in their composition, are proposed by the manufacturer. It is but a step further to the production of semisecret mixtures of complex, unstandardized and dangerous bacterial poisons, vaguely aimed at "mixed infection" and advocated as a panacea for microbic infections generally.

VACCINES EASILY AND CHEAPLY MADE

Unlike therapeutic serums, in the manufacture of which the outlay and maintenance expenses are considerable, bacterial vaccines can be produced cheaply. Consequently, with a growing demand it was natural to find manufacturers increasing in number beyond reason. With increase of numbers came stress of competition. This has led to a lengthening list of varieties of stock vaccines and vaccine mixtures, with exaggerated and unwarranted claims for their therapeutic efficiency. Here also enters that needlessly complicating factor of containers for commercial stock vaccines, until a bewildering array of bottles, bulbs, ampules and syringes of various kinds has been forced on the physician to promote his helpless dependence on the manufacturer, and to increase the cost of the products.

NEED FOR A WORKING GUIDE

In the midst of this chaotic situation the prudent and thoughtful physician finds himself sorely perplexed. There is no authoritative non-commercial recent source of information which indicates to him how far he may avail himself of manufactured stock bacterial vaccines, or to what extent the claims for their therapeutic value may be credited. He who would use and not abuse bacterial vaccine therapy has no unprejudiced guide as to its administration, value and limitations. The fundamental difference between curative and immunizing serums, and prophylactic and therapeutic bacterial vaccines is not clearly defined in the minds of many physicians.

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[*] This series of articles has been prepared under the direction of a committee appointed for the purpose by the Council on Pharmacy and Chemistry of the American Medical Association. The committee consists of Drs. Ludvig Hektoen, Chicago; David L. Edsall, Boston; John Howland, Baltimore; Reid Hunt, Washington, D. C., and Albert P. Ohlmacher, Detroit.

In fact, one would not go far wrong in asserting that a large proportion of the medical profession fails to distinguish clearly between serums and vaccines. All this needs elucidation in a manner sufficiently devoid of theoretical and technical complications to insure its ready reception by the busy practitioner, and from the practical standpoint to be sufficiently exhaustive to furnish a reliable working guide to vaccine therapy in its present status. These are the objects which underlie the contemplated series of articles of which this is the introduction.

(To be continued)

Therapeutics

MANAGEMENT OF THE PATIENT BEFORE AND AFTER OPERATION

Routine treatment is generally bad treatment, and this is especially true before and after operation. Each case must be individualized, and often preparation for the operation and care after the operation are of more importance than the technic of the operation.

Fortunately, it is now generally recognized that the anesthetist should be, if possible, one who has specialized in that work. At least, it is recognized that the anesthetist should be selected carefully, and that the giving of the anesthetic should not be left to the youngest intern, or to the physician who happens to refer the patient to the surgeon for operation. Bad as it is for the surgeon to have a clumsy, untrained assistant, even this is safer than to have the anesthetic administered by one who does not well understand the best method of administering it and the care with which the patient should be watched. We should recognize more fully that the somewhat opprobrious statement that "the operation was successful but the patient died," or "the operation was successful but the patient never recovered his strength," or "the operation was successful but a serious complication occurred," many times represents the fact that the care before and after was neglectful or incorrect. The mere technic of the operation and the quick and proper healing of the part operated on are only a certain portion of the operative risk and the operative result, their proportion, of course, varying with the part operated on and the seriousness of the condition found.

BEFORE OPERATION

Unless the operation is for an emergency and to save life, the following points should be determined carefully: (1) strength of the heart; (2) blood-pressure; (3) kidney sufficiency; (4) condition of the stomach; (5) condition of the bowels; (6) condition of the thyroid, and (7) ability to sleep.

The strength of the heart, the blood-pressure and the kidney sufficiency are so closely correlated that they may well be discussed together. The presence of heart murmurs or of an enlargement of the heart is readily determined. An enlarged heart with valvular lesions may be better able to withstand an operation than a heart that is apparently normal in size without valvular lesions, but with a weakened myocardia. The blood-pressure also is readily determined, and the range of diastolic and systolic blood-pressure many times gives the range of cardiac muscle-efficiency. There are several methods of determining cardiac strength, the simplest of which perhaps is the relative rate of the pulse on sitting, standing and lying, and the increased rapidity on slight exertion. Normally, on lying down the pulse should soon become much slower. If the patient is already in bed, sitting up or even turning over will show what slight exertion will do. If the rapidity is greatly increased and lasts more than a few minutes, the heart is not strong. A very low blood-pressure, down to 100 mm. of mercury, in an adult shows that the heart is weak. A blood-pressure over 140 in an adult should be very carefully interrogated from the arteriosclerosis standpoint and from the kidney standpoint.

An examination of the twenty-four-hour specimen of urine on the ordinary diet of the individual will show not only whether sugar, albumin and casts are present, but also the estimated excretion of solids, nitrogen and the more important salts. If nephritis is present, or if an insidious interstitial nephritis is suspected, the prognosis of the operation, especially if the anesthesia is prolonged, is not good. No harm may be done, but such kidneys can readily stop secreting. If the blood-pressure, the strength of the heart and the kidney efficiency are found satisfactory, the prognosis from these points of view is splendid. If the kidneys are slightly incapacitated but the operation must be done, a few days on a diet without meat and with increased starches will render the patient much less likely to develop uremia, acetonuria or acidemia.

The next important considerations are the condition of the stomach and the bowels, and the ability of the patient to digest his food properly. The presence of such conditions as dilated stomach, motor impairment of the stomach, duodenal congestion with more or less absorption of bile, intestinal stasis with impacted feces, perhaps, or colitis, and putrefactive and fermentative toxins and products which may be absorbed, should be determined and as many of them improved or eradicated as possible. At any rate, unless the operation is for an emergency, the surgeon or the physician in the case should be thoroughly alive to the presence or absence of these conditions.

The prolonged starving of a patient from twenty-four to forty-eight hours before an operation, and the profuse purging of the patient with more or less drastic cathartics for twelve or twenty-four hours before the operation are not a good preparation for operation. Such treatment should be condemned. The patient may have a clean gastro-intestinal canal, but he has, many times, a seriously lowered blood-pressure and weakened heart, and he goes to the operation without the strength that he should have or the strength that he did have. There is no question but that the diet for a few days, especially for twenty-four hours, before an operation should be the simplest. Perhaps it is best that the patient receive no meat, but he should receive plenty of starches and carbohydrates. The more he can store up of this kind of nutriment the less is he liable to postoperative vomiting and the danger of acetonuria or acidemia, which is doubtless the cause of death in a great many postoperative patients.

Quite generally surgeons prefer to operate on a patient early in the morning. The patient in this instance has probably had nothing to eat since 6 or 7 p. m. the day before. Normally, an individual is at his lowest temperature, lowest blood-pressure, and lowest cardiac strength from four to eight in the morning. The patient is thus caught at a disadvantage. The advantage of operating at this hour is in the probability that the patient has slept during the night, and therefore has not had as many hours of worry about the operation that is to come as he would have if the operation were done later in the day. Other things being equal then, it may be well for the majority of operations to take place in the morning from 8 to 9:30. The patient, however, should certainly have some stimulant such as a cup of coffee, with sugar, but without milk, two hours before the operation. If the operation is not to be done until between 10 and 12 o'clock in the morning, the patient should have a cup of malted milk or thin oatmeal gruel at 6 in the morning, and then a cup of coffee, as described, about 8. A prolonged starvation period is not sensible.

The caffein of the coffee will raise the blood-pressure, and this increased pressure is needed in many operative cases. If the patient already has a high blood-pressure, the objection might be made that it should not be raised. On the contrary, such a patient is accustomed to a high pressure, and will be as much weakened by the sudden loss of accustomed pressure as the individual whose blood-pressure is normal or low. Therefore there is no harm in the caffein stimulation.

There can be but one opinion in regard to the advantage of thorough evacuation of the bowels before operation. Just what cathartic should be selected must depend on the patient's condition, and whether or not the operation is to be performed for stomach or intestinal disease. It should never be forgotten that, simple as saline cathartics seem to be, if there is circulatory weakness such cathartics increase that weakness—sometimes seriously. Drastic cathartics are rarely indicated. The most drastic that should ever be administered is one or more compound cathartic pills, and these are generally unnecessary. A compound aloin tablet, such as aloin 0.02 gm. (1/3 grain), sulphate of strychnin 0.0015 gm. (1/40 grain), powdered ipecac 0.03 gm. (½ grain), and extract of belladonna 0.006 gm. (1/10 grain), with one or two grains of calomel administered either after a meal or with milk ten or twelve hours before the movements are desired, will generally prove efficient. If the action of the bowels does not occur at the time expected, an enema consisting of an ounce of glycerin mixed with an ounce of water will quickly give satisfactory results. Such a movement of the bowels should be arranged for on the afternoon or evening before the operation. Two or three hours before the operation the patient may receive, if the surgeon desires, an ordinary soap and water enema of such amount as the surgeon orders. A colon wash may be deemed advisable. If it is desired merely to empty the rectum or sigmoid flexure and lower colon, a small enema will be sufficient. Prostration will seldom result from this care of the bowels.

In operations, on women especially, the condition of the thyroid gland should always be considered; not that there is often hypersecretion of the thyroid sufficient to cause cardiac weakness, but it may be present. A rapid heart may be due to such a cause, and if a prolonged hypersecretion of the thyroid has been present, there may be considerable cardiac debility. Postoperative shock, also, is sometimes due to too much thyroid secretion. When an increased thyroid secretion is diagnosed as having been present for some time, and especially when the patient is in an excessively nervous state (which will give an acute increased thyroid secretion), it may be wise to administer a hypodermic injection of morphin before the operation. As a routine practice the administration of morphin or morphin and scopolamin is not good treatment. It is too well understood to need more than brief mention that in hyperthyroidism operations should not be done until a prolonged rest with proper diet and proper treatment has diminished the secretion and the toxicity from the secretion.

The sleeping habits of the patient should be investigated before operation. The patient who cannot sleep well for days or weeks prior to an operation will not sleep well without aid after an operation. Neither will a series of sleepless nights before an operation conserve reserve strength for the operation shock. It is often wise to give hypnotics to cause good sleep for several days before, and especially on the night preceding the operation. However much malaise or slight debility most hypnotics cause, they will do less harm than a series of sleepless nights.

AFTER OPERATION

Albumin and casts are found in the urine so frequently after etherization that they should almost be expected, especially the albumin, after all prolonged operations. There may be a bare trace, or there may be a considerable amount. The only seriousness in such a condition is in case the albuminuria persists and the casts increase, or there is little or no kidney secretion. The profuse perspiration that has occurred during the operation, the nausea and vomiting, and the small amount of fluid that is ingested for some hours, cause a diminished secretion of urine, which is always a disadvantage. The greater the quantity of urine excreted apparently the better for the kidneys, and it is certainly better for the elimination of toxins left in the blood and tissues from the anesthesia. It is also necessary for the patient to receive water as soon as possible in order that the circulation may be carried on well and the blood-vessels sufficiently filled. More fluid is needed in the blood-vessels than usual because of the vasodilatation, relaxation, and, perhaps, the dilatation of the abdominal blood-vessels both on account of the prostration normally following anesthesia and operation, and on account of necessary disturbances in the abdomen during abdominal operations.

It is not purposed here to discuss the treatment of shock, but other things being equal, the preventives of shock are: surface warmth to prevent loss of heat; conserve abdominal tone with bandages; the prevention of acute pain by morphin hypodermatically, generally with atropin, which prevents morphin depression, contracts the blood-vessels, and prevents too profuse perspiration; and the administration of liquids as soon as possible.

Continued and persistent nausea, especially with vomiting, promotes prostration and even shock. Many hours of such inability of the stomach to take nourishment tends to promote an acetonuria and an acidemia and allow complete prostration and toxemia, terminating in death. The great opponents to acetonuria and acidemia are starches and carbohydrates; hence as soon as the stomach will retain the nutriment, the patient should be given, in small amounts at a time, strained oatmeal gruel or something similar.

While small pieces of ice dissolved in the mouth, and sometimes teaspoonfuls of iced water, tend to prevent vomiting, teaspoonful doses of hot water are generally more successful. If a patient vomits mucus or bile or more or less digested blood, he should be given a large cup of hot water so that he will wash out his stomach. Later, bicarbonate of soda, in 1 or 2 gm. (15 or 30 grain) doses, dissolved in water may be added. If this alkali is absorbed, it will aid in preventing acidemia, and will also aid in the cleansing of the stomach by the water, either by being vomited or passed on into the intestine. If the vomiting persists and bile is regurgitated constantly, sometimes a few drops of dilute hydrochloric acid given with a little water will cause the pylorus to close. If two or three small doses (5 drops at a time) do not produce this result, the treatment should not be continued, as it might aid in causing an acidemia. Sometimes passing a stomach-tube is advisable, but this is so disagreeable, and so often increases the nausea and vomiting that it should not be resorted to frequently. If an acute dilatation of the stomach seems to have occurred with inability to empty itself either through the pylorus or through the mouth, then there can be no question of the advantage of washing out the stomach.

If the patient is unable to retain any nutriment in the stomach, and acidemia or acetonuria is diagnosed, large doses of sodium bicarbonate, in solution, may be given by enema. The advisability of giving sodium bicarbonate solutions subcutaneously or intravenously may be considered, but they may do harm. If sodium bicarbonate solutions are not retained in the stomach, sodium citrate solutions may be tried.

Small doses of morphin, given hypodermatically, to stop vomiting, may be considered, such doses as 1/10 to 1/8 grain. It must be remembered, however, that some of the morphin will be excreted into the stomach and may later cause more vomiting; this, however, is often controlled by hot water.

This serious nausea and vomiting are always lessened with circulatory improvement; therefore any treatment that improves the heart strength and the blood-vessel tone will improve the circulation in the stomach and liver and decrease the liability to vomiting. Unless coffee or tea is retained in the stomach (and caffein is one of the best cardiac stimulants and vasopressor substances) caffein may be given hypodermatically, or strychnin or camphor, or the blood-pressure-raising substance of pituitary secretion. As previously stated, it is not the object of this article to discuss the exact treatment of shock. But it should be remembered that to push strychnin hypodermatically in the treatment of shock is an error. Strychnin may not raise the blood-pressure at all, and may simply overirritate the heart and nervous system.

Unless there is a large amount of intestinal gas and distention, it is not necessary to cause a movement of the bowels for at least two days after the operation, perhaps longer. Colon gas may be removed by the rectal tube. The simplest method of causing an evacuation of the bowels, at least of the colon, is by the injection of an ounce of glycerin with an ounce of water as suggested previously. A glycerin suppository cannot equal the efficiency of this injection. If there is intestinal paresis, hypodermatic injections of eserin (physostigmin), intramuscular injections of an aseptic ergot, and in certain conditions injections of atropin may act very efficiently.

The tendency of the heart to become dilated after operation should cause the greatest of care in not allowing a patient to sit up, rise suddenly, or use his strength in any way, until the blood-pressure has returned to what is satisfactory for the individual. Many a heart has been injured because a surgeon wished his patient to have another position for a dressing, or because he wished to make a record of the time his patient was in bed. All this is of no moment. The decision should be made as to whether the patient has the cardiac ability and the circulatory ability to sit up, to get up, to walk, to travel, and until he has this ability he should remain in bed, all time speed to the contrary notwithstanding. Just whether it is better for a patient to be placed in the Fowler position to cause abdominal drainage, is an entirely different matter. If his future safety seems improved by such a position, he must be placed in it, even if the heart is sometimes weakened.

POSTOPERATIVE SUGGESTIONS

1. Stop anesthesia as soon as the operation is over, as it has been demonstrated that the greater the amount of anesthetic given, the greater the likelihood of kidney disturbances, and the greater the shock. This caution refers to the fact that sometimes the anesthesia is considerably continued for a prolonged and tedious dressing.
2. As the patient immediately after operation rapidly loses heat he should be uncovered as little as possible during the dressing, and warm blankets should be placed about him, lest severe chilling occur and be one of the causes of shock.
3. The dressing should be done as rapidly and with as little general disturbance of the patient as possible, and unless it is absolutely necessary, the patient's head and shoulders should not be raised much during the bandaging.
4. The bed should be warmed, great care being taken that no blistering of the patient's skin occurs from hot-water bags.
5. Pain should be stopped.
6. Absolute rest should be given. Talking, noise, questioning, or fussy, unnecessary disturbances about the bed or room should not be allowed.
7. The first urine should be analyzed carefully.
8. The length of time that the patient should be allowed to go without passing his urine before catheterization depends on whether or not the bladder is found to be full. If there is any doubt, and the patient cannot pass his urine, catheterization, with the greatest possible asepsis, should be done. When catheterization has been done more than once hexamethylenamin should be administered, in 5-grain doses, three or four times in twenty-four hours, for several days, unless there is some condition of the stomach that will prevent it.
9. Water should be given as soon as practicable, and frequently. A thin cereal should generally be the first food, and should be given two or three times a day.
10. Severe pain from after dressings should not be allowed, if it is possible to prevent it.
11. Patients should not be allowed to sit up or get up until the blood-pressure is shown by actual measurement to be nearly, if not absolutely, correct for the individual. Whether or not cardiac tonics should be administered must depend on the individual patient.

A Case of Landry's Paralysis Caused by Salvarsan Intoxication.—R. Fleischmann had a syphilitic patient who thirteen days after a second injection of salvarsan was attacked by a typical Landry's paralysis, from which he died. He believes it was caused by the salvarsan and not by the syphilis, because a Wassermann examination of the blood and spinal fluid was negative at the onset of the paralysis, there was no lymphocytosis, no infiltration of the vessels and no sign of meningitis or myelitis, as in syphilis, but there were atrophic changes of the ganglion cells which even Benario concedes to be evidence of a toxic effect of the salvarsan. Fleischmann's report was published in the *Zeitschrift für die ges. Neurologie,* 1912, xiv, 125.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 DEARBORN AVENUE . . . CHICAGO, ILL.

Cable Address . . . . "Medic, Chicago"

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SATURDAY, APRIL 26, 1913

THE GROWING PROMINENCE OF URINARY CREATIN

In reviewing the progress of diagnostic methods, one almost gains the impression of the existence of eras, as it were, in which the important advances have been confined largely to a single field of endeavor or a special type of technic. The progress of bacteriology emphasized the importance of the microscope as a help in diagnosis; the renewed study of the heart and the circulation has directed attention to the use of certain forms of physical apparatus like the manometer or pressure-gage; immunology is bringing the test-tube into competition once more with the section knife; while the modern advances in the field of nutrition study have made the chemical laboratory an indispensable adjunct to every scientific outfit in experimental medicine. It is no less interesting to watch how these shifting tendencies reflect themselves in the equipment of the practitioner. What one day is a highly specialized reaction or an unusually complicated apparatus, reserved for the exclusive use of a few initiated or superbly trained men set apart from the usual work of the every-day doctor, soon may become incorporated as a part of busy routine and indispensable outfits. So it was with the microscope, with the hemocytometer and hemoglobinometer, with the blood-pressure apparatus, and with serum tests, and with respiration and anesthesia devices. The transitional stage may be noted with instruments like the polygraph for simultaneous records from various parts of the circulatory domain — devices which not a few of the hospitals now require, while the electrocardiographic outfit and the metabolic respiration apparatus are still reserved for a select and inconspicuous minority.

If Chemistry has fared less well in this triumphant progress it is, perhaps, because her claims are less well understood and her technic less easy to acquire. But there are signs of potent change even here. A few years ago the urine was looked on essentially as a solution of urea and salts; and aside from the presence of distinctly abnormal constituents like protein, sugar, blood or bile, the only question asked concerned the quantity of urea. This narrow outlook into the field of perverted metabolism is rapidly being widened. Urea, uric acid, creatinin, creatin, hippuric acid, ammonia, amino-acids, etc., are types of nitrogenous urinary components, each of which has its own independent history — each a story of specific importance to tell. Already we hear the inquiry made here and there in familiar practice as to the content of ammonia in the day's output in relation to possible acidosis; purin-free dietaries find their advocates just as a carbohydrate-free regimen has its place in therapy; the efficiency or usefulness of either finds its expression in the chemical composition of the urine.

The story of creatinin and creatin is still for the most part unfamiliar, as it is indeed still obscure. Not long ago urinary creatinin was regarded merely as the end-product of creatin ingested in meat, since the output was found to be increased by the intake of muscular tissue or meat extracts. Yet despite the fact that neither creatin nor creatinin is found in familiar plant forms, vegetarians were known to excrete creatinin. With the introduction of satisfactory methods of analysis it became clear at length that urinary creatinin for the most part has an endogenous origin in man. The output for the individual (on a creatin-free or creatinin-free, that is, meat-free, dietary) is practically constant, varying with the size of the individual. Now and then creatin was observed to accompany the closely related creatinin in the urine, first in starvation, then in certain diseases, subsequently in the case of the young in contrast with adults, and also in the period following pregnancy.[1]

What is the significance of this aberrant appearance of creatin in the urine? It is too early to give a decisive answer to the question; but the rapid extension of our knowledge gives promise of a solution to the inquiry in the not too far distant future. Certain pathologic conditions in which creatin is found to be eliminated have one factor in common with starvation in which it is uniformly observed; namely, the carbohydrate metabolism is known to be abnormal. The creatin excretion induced by starvation can be cleared up by feeding carbohydrate. Creatin is excreted in diabetes. Such facts have led to the assumption of an intimate relationship between the metabolism of carbohydrates and that of creatin. Indeed, the carbohydrates unquestionably play a more important part than that of simple sources of available energy. It is now appreciated that the adequate catabolism of fats in the body is in some way dependent on carbohydrates, which is indicated by certain features of ketonuria in which the sugars fail in the organism. In other words, many metabolic phenomena become abnormal in the absence of carbohydrates or when they cannot properly be used in the body. It is not strange, therefore, if creatin and creatinin metabolism manifest abnormalities when the carbohydrate store becomes unavailable. The situation has been summed up by saying that creatin metabolism, together with many other biochemical changes in the organism, goes wrong in the absence of carbohydrate; but, on the other hand, an abnormal creatin metabolism does not mean an abnormal carbohydrate metabolism.

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[1] The literature on the subject will be found referred to in the papers of Mendel, L. B., and Rose, W. C.: Experimental Studies on Creatin and Creatinin, Jour. Biol. Chem., 1911, x, 213.

The excretion of creatin by women, post partum, which was first described by Shaffer,[2] has generally been supposed to be due to the involution of the uterus whereby creatin was liberated from the breaking down of the muscular tissue of the retrograding organ into the bloodstream, and excreted. The same sort of explanation has been offered for its appearance in starvation and diseases such as cancer which are accompanied by enforced inanition. Here the rapid wasting of the patient, with attending disintegration of the voluntary muscle, has been charged with the production of the eliminated creatin. Mellanby[3] has taken exception to this explanation for the appearance of creatin post partum. The unstriated muscle, he maintains, contains no creatin; hence the uterus cannot furnish the product referred to. In fact, he has shown that when the uterus is removed after delivery, even more creatin may be excreted than when this muscular organ is left intact. On the other hand, evidence gathered by Mellanby from a metabolic study of parturient women on creatin-free diets indicates that the creatin excretion at this time has some relation to the mammary gland. There is a correspondence between increased mammary activity a few days after delivery and the development of milk from colostrum. If, owing to a toxemic condition, the activity of the breasts is delayed after childbirth, the creatin excretion is also delayed, and both develop synchronously in such cases. The early suppression of mammary-gland activity by the development of fever and mammary-gland abscesses is accompanied by the suppression of the creatin excretion. On the other hand, purgation and bandaging, which are employed to suppress mammary-gland activity, but do not act so effectively as illness, do not diminish the creatin excretion of the puerperium. This post-partum excretion of creatin is unlike that accompanying acidosis and lack of carbohydrates, for apparently lactose and glucose added to the diet do not suppress it.

From the facts now at hand Mellanby ventures the opinion that in the adult person the excretion of creatin is a general reaction indicating some abnormal condition affecting the transport of nutrient material, such, for instance, as that which must accompany the growth of the fetus or the development of milk secretion. Such a generalization might include the metabolic condition of carbohydrate deficiency in which, as already mentioned, creatinuria is present. The observations by Mendel and Rose on the excretion of creatin in all stages of childhood and adolescence suggest the association of creatin with the transport of material necessary for the growing tissues.

It is a striking fact brought out in a few cases by Mellanby that the best-milking mothers excreted the most creatin. Some evidence has been advanced by him that the puerperal excretion of creatin depends on the action of substances formed in the mammary gland itself. The relation of this hypothetical substance to the pyrexia commonly observed in women a few days after childbirth, and to the milk fever of cows, a condition for which the mammary glands are apparently responsible, will bear investigation. The point which we wish to emphasize is that the critical study of the urine by the most up-to-date methods of analysis has called attention to possible relationships and etiologies which no amount of mere casual inspection would suffice to disclose.

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[2] Shaffer, P. A.: Am. Jour. Physiol., 1908, xxiii, 1.

[3] Mellanby, E.: The Metabolism of Lactating Women, Proc. Roy. Soc., London (B), 1913, lxxxvi, 88.

CONTAMINATED VEGETABLES

As water-supplies are more carefully inspected and their tendency to spread typhoid becomes less and less, the other factors in the dissemination of the disease are becoming better recognized. Among these one of the most important is the consumption of such vegetables as are placed on the table without cooking. As they can be washed only in cold water, and as frequently they may have been exposed to dust and dirt of various kinds, they are naturally capable of becoming carriers of disease under certain circumstances. The health departments of many cities now require, very properly, that such vegetables shall not be exposed openly for sale on the streets to be contaminated by street dirt and to be the resting-place of flies, but of course it is of no avail to safeguard them during sale if they have been contaminated previously. Their handling before they come to market and the conditions under which they have been grown are therefore extremely important.

Dr. J. D. Long[1] of the Public Health Service has called particular attention to the possibility of the dissemination of typhoid through the use of night-soil as a fertilizer. This would seem to be a distant and surely infrequent source of danger because of the deterrent feeling aroused by the thought of such a form of fertilizer, but, says Dr. Long: "In certain portions of the United States it is not uncommon to use sewage as it issues from the sewerage system of cities or towns for irrigation purposes, either by diverting it into a channel which leads through the garden, or by dipping it from polluted streams, vaults or vats, and applying it. In several communities, owners of large vegetable gardens collect night-soil, and furnish, clean and change the pails or receptacles, free of charge to the householder. In these instances the matter collected is usually mixed with the earth of the garden."

Among the Oriental peoples the custom of using night-soil as a fertilizer in vegetable gardens has obtained from time immemorial. Certain of the northern nations of Europe also have had this custom, and have brought it with them to this country. The truck farms near our large cities, especially in the East, are coming more and more into the hands of foreigners, some of them Syrians; while in the West the Chinese have invaded this branch of farming, and naturally bring with them the customs of the countries in which they have lived. Some of the oriental peoples of the Near-East, particularly the Greeks and the Armenians, in increasing numbers are growing and handling the fruits and vegetables of our larger cities.

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[1] Long, J. D.: [illegible] inated V[illegible]tables: the Use of Night-Soil in the Vegetable [illegible] as a P[illegible] Disseminator of Diseases, Pub. Health R[illegible] 28, 191[illegible] [illegible]92.

Dr. Long says: "Owners and operators of vegetable gardens, in addition to saving carefully the excrement of themselves, their families and laborers, make periodic trips to the nearest market for the purpose of purchasing such additional material as may be needed. . . . In certain portions of the Orient it is a common thing to see a laborer walking between rows of young vegetables with a bamboo pole over his shoulder, from each end of which there hangs a sprinkling can. The streams from these cans are directed onto the tops of the young vegetables."

Typhoid bacilli may remain virulent on the leaves and stems of growing vegetables thirty days after the soil is infected, and the same germ has been found in the ground itself still active and virulent thirty-five days after it was infected. There are certain old impressions with regard to the purifying effect of natural conditions that need to be corrected. We have entirely given up the old maxim that running water purifies itself every three miles, for we know that specific disease-germs will live for days and weeks in running water. Ordinarily it was presumed that the growth of vegetables in sufficient sunlight to insure their vitality would definitely bring about the destruction of even virulent bacteria on them. This has been proved to be untrue. Rainfall or the watering process necessary for vegetable growth was supposed to be sufficiently cleansing to guarantee the healthfulness of fresh vegetables eaten uncooked, but when specific disease-germs are in question this is also not true.

As other affections, such as various forms of gastro-enteric disease, amebic dysentery and bacillary dysentery, may be transmitted in the same manner as typhoid through human excrement, it is evident that precautions should be taken against its use. The question is of much more wide-spread interest than might be imagined, for it is quite probable that the solution will also have to include some care with regard to other forms of fertilizer. While the excrement of the animals gives back to the soil, just as in the case of human beings, large amounts of readily available nitrogenous materials, these are mixed with matter that is extremely objectionable and often likely to be dangerous, particularly when derived from diseased animals. When the manure has been allowed to remain for a considerable period undergoing the chemical processes of decomposition, it is probable that most of the dangereous products in it are broken up.

CHLOROFORM AND ETHER

Despite the controversy maintained so many years with respect to the comparative advantages of chloroform and ether as anesthetics — a controversy apparently supported by the varying impressions of experimentalists and practitioners — the belief has become quite firmly established, in this country at any rate, that chloroform harbors certain elements of danger not exhibited by ether. These consist in irregularities of the heart-beat which may early manifest themselves, even before the content of chloroform in the blood is sufficient to maintain a deep narcosis, the heart's action may be weakened. An accompanying relaxation of the vasomotors may help to bring about an imperfect circulation leading to a collapse of the patient during the narcosis. More serious than this, however, is another untoward feature of the undue administration of chloroform. A sudden failure of the heart may ensue when an excessive quantity of the anesthetic reaches the blood at once. It is in this respect that the danger of ether is far less marked; that is, the range of dosage between the amount sufficient to induce narcosis and the quantity which will evoke the dangerous failure of the heart is far larger in the case of ether than in that of chloroform. For example, it has been found that the cessation of the heart-beat occurred with a content of 0.058 per cent. of chloroform in the blood of the ventricle. Inasmuch as from 0.035 to 0.05 per cent. of chloroform is found in the blood in conditions of deep narcosis before the stage of heart failure,[1] it will be noted how slight is the zone of safety between the efficient concentration of chloroform in the blood and the danger limit. This is not true in the same way of ether, and the practical consequences of the differences in this behavior of the two anesthetics are obvious.

Although as long ago as 1848 Snow maintained that ether produced more efficient anesthesia than a quantity of chloroform which produced an equal degree of narcosis, and that chloroform is from eight to ten times more toxic than ether, the problem of relative merits has been reiterated again and again. This is, perhaps, due to the fact that in comparison with chloroform, ether has received little attention from pharmacologists; as one writer expressed it, the ether research has usually been a small appendage to a research on chloroform.[2] The Hyderabad Commission, in 1893, concluded that ether produced the same bad effect as chloroform; and Cushny had expressed the opinion that the effects of chloroform and ether differed mainly in degree.

The opinion of most observers that ether is distinctly less dangerous than chloroform is substantiated by recent observations of Githens and Meltzer[3] conducted by a new method at the Rockefeller Institute for Medical Research. They have studied the toxic effects of the two anesthetics when administered by the method of intratracheal insufflation introduced by Dr. Meltzer. By this procedure one of the dangerous effects of ether and chloroform is eliminated, namely, that resulting from a partial or complete paralysis of the respiratory function; for the respiration is artificially conducted. The intratracheal insufflation does not necessarily cause apnea, for the spontaneous respiratory movements of the individual may still be detected. The outcome of the study of the anesthetics under such conditions was distinctive. When ether is used, a certain dose may be administered which is amply sufficient to keep the animal completely anesthetized, while respiration and blood-pressure may remain practically unimpaired for several hours. When this anesthetic dose is exceeded, the first striking effect is on the spontaneous respiration, which may be abolished. At this stage blood-pressure is not impaired. With the continuance of the higher dosage the blood-pressure begins to fall, very gradually and slowly. The dangerous level may not be reached for several hours. Even at this stage, when the ether is turned off, the pressure may begin to rise at once, although some time has to pass before the respiration returns, and there is still another interval before reflexes and consciousness return. Only a partial reduction of the ether intake may suffice to permit a return to the degree of blood-pressure which is sufficient to obviate danger.

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[1] Nicloux, M.: Les anesthésiques généraux, Paris, 1908, p. 27.

[2] Embley, E. H.: The Action of Ether on the Circulation, Biochem. Jour., 1910, v, 79.

[3] Githens, T. S., and Meltzer, S. J.: Differences in the Toxic Effects of Ether and Chloroform, as Observed Under Intratracheal Insufflation, Jour. Pharmacol., 1913, iv, 355.

The ready abolition of the respiration by ether is a practically important phenomenon. It may serve as an indication that the etherization has entered the toxic zone. As Githens and Meltzer add, it is a danger signal; and since hours may pass before the real danger will be arrived at, it is a safe and very valuable signal.

The results with chloroform were quite different and in line with what has been intimated before. In doses which are undoubtedly in excess of the anesthetic dose, respiration and blood-pressure go down practically together, and this in a comparatively short time. When the administered dose is only slightly in excess of the reliably anesthetic dose, the impairment of respiration does not set in so early as under ether intoxication; but when this sets in, blood-pressure begins to fall also, although the respiration may in some cases cease fifteen or twenty minutes before the fall of blood-pressure reaches the danger point. Respiration perhaps resists chloroform intoxication slightly longer than that of ether, while blood-pressure is affected much more rapidly and profoundly by chloroform than by ether.

These findings correspond in their practical bearings with the conclusions of Embley, who maintained that primary paralysis of heart muscle from overdose of ether does not occur in ether anesthesia; when heart-failure occurs it is secondary to failure of respiration. If it is true, then, that ether is in every way much safer than chloroform, one trenchant reason now is that, in the case of chloroform, the zone separating safe anesthesia and danger is narrow, and there is no reliable danger sign.

THE GASTRIC SECRETIN

With the introduction of the hormone theory of the stimulation of digestive glands and other organs to physiologic activity, attention was quickly directed to the determination of where and how this explanation of the maintenance of important functions could be applied. The classic illustration was, of course, the initiation of pancreatic secretion through the absorption of secretin elaborated in the wall of the duodenum by the hydrochloric acid coming in contact with the intestinal mucosa after the discharge of gastric contents through the pylorus. Acting on the suggestions contained in this discovery, Edkins has carried out experiments to see whether such a chemical mechanism, in distinction from the nervous control which is usually called on to elucidate the phenomena of secretion, may not also serve to explain the secretion of gastric juice when food is introduced into the stomach. He finds that substances such as peptone, broths, dextrin, etc., which are known to induce gastric secretion when ingested, are without influence on the secretory act if they are injected directly into the blood-stream. But when such known excitants of secretion are allowed to stay in contact with the pyloric mucous membrane and a decoction of this is then injected into the circulation, a secretion of both acid and peptic enzyme into the stomach ensues. Infusions of the cardiac portion of the stomach or of other organs do not act in this secretion-producing manner. Edkins concludes that this typical secretion of gastric juice is determined by a chemical mechanism; the first products of digestion act on the pyloric mucous membrane, in which they produce a substance which, entering the blood-stream, is carried to the gland-cells of the stomach where it acts as a specific excitant of their secretory activity. This is the gastric hormone — gastric secretin.

The problem of the existence of such a specific chemical "secretagogue" has been pursued in the laboratories of the Academy of Sciences in St. Petersburg under the inspiration of the remarkable experimental technic which Pawlow has developed. The skill with which sequestered accessory stomachs and their connected fistulas are constructed surgically for the independent observation of what takes place in the major parts of the stomach; the side-tracking of usual paths of digestive progress; the purposeful diversion of the food-masses into new or unusual by-ways — all of these operative interferences conducted with due regard for the integrity of the nervous and muscular and circulatory mechanisms of the alimentary apparatus always remain a marvel to the inexpert and uninitiated. By such artistic methods whereby substances can be introduced into the pyloric portions of the stomach while the effects on secretion can be observed in an independent and disconnected part of the same organ, Sawitch and Zeliony[1] have established the essential accuracy of Edkins' contentions. Extract of meat, for example, brought into direct contact with the pyloric mucosa, provokes a marked flow of gastric secretion in the fundus of the stomach. This is, of course, quite independent of sight, smell or taste of the food product. Sodium bicarbonate, the possible efficiency of which as a secretory excitant in the stomach has been so much debated, also provokes a similar indirect secretion of acid gastric juice. Even distilled water is found to be not inert. It seems certain, then, that the production of gastric juice in the fundus glands can be excited through the mucosa of the pylorus region by various substances which are known as secretory excitants; and this effect can be brought about by direct contact in the stomach, without stimulation of the mouth accessory parts or the sensory organs.

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[1] Sawitch, W., and Zeliony, G.: Zur Physiologie des Pylorus, Arch. f. d. ges. Physiol., 1913, cl, 128.

These facts add to the growing conviction that normal gastric secretion is due to the cooperation of at least two factors. The primary one is the nervous secretion induced by the stimulation of the mucosa of the mouth or by the awakening of the appetite through psychic channels. The second factor is chemical. It depends on the elaboration of a hormone which acts as a chemical messenger to all parts of the stomach through humoral paths, and whose effects linger long after the psychic secretion has faded out.

ARTICLES ON VACCINE THERAPY

Bacteriology was unknown, or at least in its beginnings, at the time when many physicians now in active practice received their medical training. Yet since that time, and based on that science, there has been a greater development in medicine and in surgery than was achieved in all the years preceding. As a result of the development of bacteriology, serum therapy was established, and finally Wright—less than a decade ago—inaugurated a method of treating infectious diseases by bacterial vaccines. When this new treatment was introduced, special skill was considered necessary on the part of those who used it; the worker had to be trained to recognize the different varieties of bacteria, to isolate them in pure culture and to know how to obtain the opsonic index. In a word, the treatment required a worker skilled in bacteriology with an unusual laboratory equipment. Now, however, physicians without special training are applying this treatment; no longer, it would seem, are these requirements of skill and experience regarded as necessary Why?

The new method of treatment found the great majority of physicians without that particular training necessary to apply it properly. Laboratory workers, however, clinicians in hospitals, and here and there the thoroughly prepared man in active practice, were publishing reports of successful results from the use of vaccines—usually autogenous and made by the man who treated the patients. Physicians generally began to realize that it was their duty to give their patients the benefit of this new application of science to therapeutics. At the same time they realized their inability, through lack of laboratory training and knowledge of bacteriology, to meet the demand. They appreciated that this treatment depended, first, on a correct diagnosis—not as to the particular disease, but as to the causative agent—the particular organism; and second, on the knowledge and skill required to prepare the vaccines. How to compensate for their deficiency in this special knowledge was the problem before practitioners. This deficiency was almost unavoidable, for it meant practically a new science to be learned.

Here the manufacturer sprang to the rescue. He first engaged to take from the physician the labor of making the vaccines, and the stock vaccines were placed on the market. So far, so good; but this satisfied only one requirement—supplying the remedy. The next was the supplying of the diagnosis. Commercial acumen again came to the rescue and introduced, not corresponding stock vaccine—that is, one that would apply to the particular causative organism—but two or three combined, so that good guesswork would be sufficient rather than correct diagnosis. This one false step being taken, *facilis descensus Averni.* If it was a good thing to have two or three different varieties, then it would be still better to have twice this number; so to-day we have mixtures containing as many as seven or eight, and in one instance ten different varieties of dead bacteria. Of course, such mixtures relieved the physician from the necessity not merely of making an exact diagnosis, but, in fact, of making any diagnosis whatever. Not only is it no longer necessary to take the opsonic index, but even the microscope may now be laid aside, and the diagnostic culture ignored, for surely one of the many ingredients of these mixtures will fit the case! If the old shotgun nostrum was regarded as unscientific and discreditable to our profession, what shall we say of the new shotgun mixture? From the point of view of true scientific therapy, there is absolutely no excuse for mixed vaccines, and the reason for their existence rests, first, on the fact that many physicians are not able to make correct diagnoses and apply the particular vaccine, and, second, on the fact that vaccine therapy has been subordinated to commercialism. In thus abdicating his office as a scientific diagnostician, the physician is descending from the position of a skilled specialist to become the purveyor of ready-prepared remedies under the advice of commercial houses.

At the time these commercial vaccines were being introduced, the Council on Pharmacy and Chemistry undertook to investigate and pass on these products, as it was doing with proprietary medicines. The Council soon realized that the problem was a serious one. Therefore, a little over a year ago, it appointed a special committee to consider the subject. This committee reported at the recent annual meeting of the Council and recommended, among other things, that in the future no mixed vaccines should be accepted, unless there was a special reason for a particular combination. This recommendation was adopted. There was also another: that a special committee be appointed to prepare a series of articles to be published in THE JOURNAL, in which the problems connected with this new therapeutic movement should be discussed. The first instalment of the series appears in this issue.

Let us repeat that the recent developments in vaccine therapy are unscientific and discreditable; that it is time for each individual physician to give the matter serious consideration and to realize his responsibility. There is no doubt that this new therapy, if scientifically applied, is of real service, and marks an advance; but future development of the method depends on its scientific application, and its deliverance from commercial thraldom.

GLUCOSE WINS

We have at different times[1] given our readers the facts regarding the attempt of the "glucose trust" to render null and void the Wisconsin state law which prohibits the sale of glucose under the euphemistic misnomer, "corn syrup." Beaten at every point in the state courts the trust finally carried the case to the United States Supreme Court. This tribunal has within the past few days handed down a decision in the case favorable to the glucose trust. Briefly, the facts are as follows: Several cans of a product consisting of a mixture of glucose with a small amount of cane syrup were shipped from Illinois to a retail grocer in Wisconsin. This glucose mixture was labeled "Karo Corn Syrup" and also "10 per cent. cane syrup, 90 per cent. corn syrup." This labeling violated the Wisconsin law, which prohibits the use of the term "corn syrup" as a synonym for glucose. The retailer of this mixture was prosecuted under the state law and found guilty. The case was appealed to the state supreme court, which affirmed the conviction of the lower court. Then the case was carried to the United States Supreme Court.

The result of this federal decision is far-reaching. It means, apparently, that no state may pass, for the protection of its citizens, food and drug laws that are more stringent than the federal law covering the same ground—at least so far as the law may affect articles that are sold direct by the importer to the public

The decision seems to bring about some curious anomalies. For instance, as the law now stands it is presumably:

1. *Legal* for a retail grocer in Wisconsin to sell his customers a product made in another state that is mislabeled according to the Wisconsin law, provided he imports the product himself and provided that the labeling does not conflict with the federal law.

2. *Illegal*, however, for him to sell the same product, labeled in the same way, if he has purchased it from a jobber in his own state.

3. *Illegal* for him to sell a product mislabeled according to the Wisconsin law, but correctly labeled according to the federal law, if the stuff is manufactured within his own state.

Apparently, then, the Supreme Court's decision will discourage the founding of any state industries in food and drugs in those states whose food and drug laws are more stringent than the federal law. Furthermore, it seems to deliver a body blow to the jobbers of those states having stringent laws. The Supreme Court's objection to the Wisconsin law in this matter seems to be that the state forbids the use of any label on the product except that which it prescribes. Should the Wisconsin law be so amended as to permit it, a can of glucose, without conflict with the Supreme Court's decision, may be labeled on one side "Corn Syrup"—thus complying with the federal law—and on the other side "Glucose," in accordance with the state law. As the matter now stands, the people of Wisconsin may have glucose foisted on them under any fancy name the glucose trust sees fit to use, provided the Wisconsin retailer imports the stuff direct instead of through his jobber.

Current Comment

WATER-CORE GOLF-BALLS

Even our most innocent recreations seem hedged about with unseen dangers. Elsewhere in this issue will be found the case history of a boy who lost the sight of his right eye as the result of cutting into a golf-ball. This report is by no means the first one of its kind; indeed, there have been many both here and abroad, and attention has been called to the unwisdom of dissecting *any* golf-ball lest it prove to be one of the "water-core" variety. As a rule the centers of these balls are formed by a rubber bag containing various heavy fluids, almost all of which are highly caustic. Analyses of the contents in a number of reported cases have disclosed hydrochloric acid, solutions of zinc chlorid, caustic soda and other dangerous cauterants. These burning liquids and their rubber container are tightly covered by machine-wound ribbons or other material, and are thereby subjected to great pressure. It follows that when burst or cut open the fluid contents are expelled with explosive force, generally into the face of the dissector or some innocent onlooker. Recently the United States Golf Association took up the matter and issued this warning: "Owing to the fact that serious accidents have occurred in the past few years due to cutting open certain makes of golf-balls containing acid and other sight-destroying compounds, the association warns all persons to refrain from this dangerous practice." Whether or not the resiliency or "carrying power" of golf-balls is enhanced by furnishing them with some sort of fluid core may be left to the proper authorities to decide; but it is our duty both as good (?) golfers and as practical sanitarians to warn the public of the dangerous character of some golf-balls, and to let them know that it is the part of wisdom not to invite disaster by dissecting any.

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[1] Where Glucose is Not Corn Syrup, editorial, THE JOURNAL, July 2, 1910, p. 33; Will the Wisconsin Pure Food Law be Emasculated? editorial THE JOURNAL, Nov. 26, 1910, p. 1897; The Wisconsin Pure Food Law Not Emasculated, editorial, THE JOURNAL, May 20, 1911, p 1483.

THE SOPHISTICATION OF "SOFT" DRINKS

The near advent of the warm season with its attendant thirst, coupled with the great American habit of consuming large quantities of soda-water and other "soft" drinks, has prompted the New York City and Montana boards of health in recent bulletins to deal with this subject. The Montana bulletin contains an article giving a long list of bottled, carbonated beverages which were found either adulterated or misbranded when examined in the state laboratory. Most of them contained saccharin; samples of "ginger ale" contained capsicum but no ginger, and the fruit beverages all contained artificial flavors and colors which were not declared on the label. It is also stated that since saccharin does not aid foaming as does sugar the manufacturers are in the habit of using extract of soap-bark, which produces a good foam. Not only is this substance deceptive, but also the soap-bark contains a toxic principle, sapotoxin, which is markedly poisonous. The bulletin of the New York City Department of Health sets forth a regulation prohibiting the use of soap-bark in beverages and in fillings used by bakers. Violations of this regulation will be criminally prosecuted. The prevailing habit of consuming large quantities of bottled, carbonated beverages in hot weather is undoubtedly productive of much harm. The knowledge that poisonous chemicals are among the ingredients should discourage their use. Probably neither the conscience of the manufacturers nor statutory or health board regulations will entirely prevent the sophistication of these "soft" drinks.

DANGER IN TONIC SUMMER DRINKS

In addition to the drinks containing saccharin, saponin and chemical flavoring and coloring substances, there are other "temperance" drinks equally dangerous, especially for the children and young persons who indulge in them so freely. Many of the rather misnamed "tonic" drinks that are so widely advertised have been shown by the United States government analyses to contain considerable proportions of caffein. It is easy to understand that after taking these caffein-containing cold drinks the feeling of fatigue may drop from one. Caffein is not, however, a desirable stimulant to serve indiscriminately to growing children or young adults, especially those city dwellers whose nervous systems certainly need no artificial stimulation. Besides, caffein seems to have a definite tendency to the formation of a habit. Not a little of the restlessness of children during the summer is to be attributed to the taking of caffein in considerable quantities in the form of these soda-fountain drinks. The parents sometimes discover that a distinct craving for the particular drink has been created and that the child pleads for money to satisfy that craving. After reading the advertisements of the marvelous tonic and stimulating virtues and fatigue-dissipating qualities of these preparations, the parents feel sure that there cannot be any harm in such well-recommended beverages, especially since they are sold in a favorite drug-store. Unfortunately, this confidence is not justified; it is necessary to draw a sharp line between bottled tonics or drinks containing caffein and the relatively harmless carbonated soda-water of the soda-fountain, when served plain or with wholesome flavoring matter.

"KUR" AND "CURE"

Many newspapers are hasty or careless in announcing the discovery in Germany of some method of treatment more or less new, and not infrequently misinformation is given the public through failure to keep in mind the actual meaning of one little word. The German word *Kur* does not mean "cure," although it is not an uncommon thing to find it so translated into English. "To cure" in English means "to restore to health; to effect a cure"; but in other languages it means merely to apply "a method of remedial treatment of disease; medical or hygienic care; method of medical treatment." The German word for "restoration to health" is *Heilung,* not *Kur.* The Latin word *cura* means merely "care," a shade of meaning which is preserved in the derived term "curator." An Italian physician was recently made to say, when his article was translated into English, "I cured ten typhoid patients last month and six of them died." What he really said was that he had treated ten patients.

THE NEW OWEN BILL

Senator Owen has introduced a revised bill providing for a national Department of Health; the text of this Senate Bill No. 1 appears in this issue.[1] In discussing the tie vote by which the Senate of the Sixty-Second Congress declined to consider the Owen bill at that time, THE JOURNAL stated[2] that it was generally understood that Senator Owen would redraft and modify his bill and would introduce it at the next session of Congress. The hope was also expressed that the new bill would go back to the original plan and provide for a Department of Health with a secretary in the cabinet. The new bill follows the general plan of organization provided in the former bill, but creates a Department of Health and provides for a Secretary of Health. The present bill is by far the best measure which has yet been presented on this subject. It contains all of the strong points of preceding bills without any of the objections to which previous bills were subject. The return to a plan for a Department of Health is commendable. In the United States Public Health Service we already have a strong, efficient and rapidly developing bureau. In order to justify itself to the friends of advanced health legislation, any proposed change must provide for something larger, better and stronger than the existing health machinery. The movement for a department has gained strength enormously during the past three years. The opposition to it has crystallized in a constantly diminishing group of objectors, while public support for such a measure has been growing as its object and purposes have been better understood. The silly objections which were at first raised against the measure have been completely met. The establishment of a national Department of Health will not and cannot create a "medical trust." It cannot interfere with the rights of any citizen or with the authority of any state. It cannot have anything to do with the individual treatment of disease or with the administration of drugs. These facts have been proved repeatedly to the satisfaction of all those who really wish to know the truth. The only objectors left are those who are too ignorant to be able to understand, too fanatical to desire to understand or too mercenary to care for anything except the possibility of interference with their private gains. The educational value of the efforts that have been made in the past are well worth the cost. The prospects for the passage of Senator Owen's bill are more favorable now than ever before.

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[1] Medical Economics Department, this issue.

[2] Senate Declines to Consider Owen Bill, editorial, Feb. 8, 1913, p. 453.

Medical News

ILLINOIS

Personal.—Dr. Arthur Parsons has been elected mayor of Geneseo.——Dr. James Parkhurst, Grand Detour, who has been ill with pneumonia, is improving.——During the recent floods on the Ohio River, Dr. J. C. Westervelt, Shelbyville, represented the State Board of Health at Shawneetown and Dr. Charles J. Boswell, Cairo, and Dr. Charles E. Crawford, Rockford, at Cairo.

Vote for County Sanatorium.—At the city election in Rockford, April 15, advantage was taken of the Glackin act of 1908-9 and a vote was taken "for the levy of a tax for a public tuberculosis sanatorium." As the result of an active campaign by the Winnebago County Antituberculosis Association, this proposition passed by a substantial majority and Winnebago County will have in the near future a free antituberculosis sanatorium.

INDIANA

Death of Dr. Daugherty.—Dr. C. A. Daugherty, South Bend, Trustee of the American Medical Association, died April 23. A further notice will appear next week.

KENTUCKY

Personal.—Dr. R. Linsey Ireland has been elected president and Drs. Henry Enos Tuley and R. R. Elmore, vice-presidents, of the Louisville Automobile Club.——Dr. W. C. Caywood, Winchester, has been elected physician at the Frankfort Reformatory, vice Dr. E. H. Maggard, resigned.

Flood Notes.—The Louisville board of public safety will give antityphoid inoculation free to all who wish it.——On the recommendation of Dr. W. W. Richmond, Clinton, a member of the state board of health and Major Lyster, M. C., U. S. Army, the boards of health of Hickman and Fulton County are said to have issued orders for the compulsory typhoid vaccination of everyone in the county.——Surgeon Leslie L. Lumsden, U. S. P. H. S., spoke at a special meeting of the Maysville and Mason county boards of health and of the city council of Maysville, on the best method of cleaning up after a flood. Dr. Lumsden went from Maysville to Catlettsburg.——The steamer *Edward Meyer* left Louisville, April 9, in charge of Major James A. Logan, U. S. Army, to visit and inspect the cities and towns affected by the flood. Major Paul C. Hutton, M. C., U. S. A., was in medical charge of the expedition and was accompanied by Dr. W. L. Heizer, Bowling Green, representing the Kentucky State Board of Health, and representatives of the state boards of health of Indiana and Illinois and other physicians, all of whom worked in conjunction with the local boards of health of the various towns visited.——A bulletin has been issued by the State Board of Health appealing to public sentiment for "an organized, systematic and thorough clean-up campaign, the free liming and whitewashing of all recent overflooded premises and the boiling of all suspicious drinking-water.'

LOUISIANA

New Railroad Hospital Opened.—The new Illinois Central Railroad Hospital, New Orleans, was formally opened to receive patients, March 7. This hospital will care for the sick and injured employees of the system in the New Orleans district.

Jubilee of Polyclinic.—The twenty-fifth anniversary of the New Orleans Polyclinic, the postgraduate medical department of Tulane University, was celebrated with impressive ceremonies, April 7. Dr. Charles L. Chassaignac, the dean, told of the progress made in the institution since its first session in 1888. Other speakers of the evening were Drs. Isadore Dyer and H. Dixon Bruns. Dr. Rudolph Matas gave an interesting history of the polyclinic.

State Board Has Full Authority.—On April 16, for the second time, the State Board of Health of Louisiana was vindicated for the position it has assumed that it was the supreme and final health power and arbiter in the state. The Supreme Court, in the case of the State Board of Health versus Adolph Susslin, in which the board sought to enjoin an Algiers baker from operating a plant alleged to be in a highly unsanitary condition, reinstated the decree rendered by it last December after a full rehearing of the case. The court holds that neither the city of New Orleans nor the Board of Health of the City of New Orleans has exclusive jurisdiction in health, sanitary and hygienic matters in the city, and that the State Board of Health not only is not excluded from acting within the parish of Orleans, but has supervisory powers throughout the whole state including the parish of Orleans, and may remedy and suppress conditions detrimental to the public health, notwithstanding the existence of a local board of health.

MARYLAND

New Officers.—Cecil County Medical Society, April 18: president, Dr. Ernest Rowland, Liberty Grove; secretary-treasurer, Dr. Howard Bratton, Elkton.

Widows' Home Election.—The board of managers of the Home for Widows and Orphans of Physicians elected the following officers at its annual meeting: president, Mrs. Eugene F. Cordell; vice-presidents, Mrs. J. F. H. Gorsuch and Mrs. Louis A. Griffith; recording secretary, Mrs. Salvatore De Marco; corresponding secretary, Mrs. Johannes Mattern, and treasurer, Dr. Eugene F. Cordell.

Hospital News.—Work has been commenced on the Allegany County Tuberculosis Hospital to be erected on a seventy-five acre tract of the Land estate on the east side of Haystack Mountain, opposite Mount Hebo. The building will be ready for occupancy this summer.——A committee has been appointed by the Berlin Board of Trade to look into a site for a hospital for the town. The committee has reported in favor of the Stokes farm, a mile and one-half south of Berlin. The site can be purchased for $5,000 and the cost of the necessary alterations will be about $3,000.

Baltimore

Fletcher's Portrait Presented.—At the meeting of the Johns Hopkins Hospital Historical Club, April 14, Dr. Fielding H. Garrison, Washington, presented to the college a portrait of the late Dr. Robert Fletcher of the Surgeon-General's Library, Washington, D. C.

Psychiatric Clinic Opened.—The event of the week in Baltimore was the opening of the Henry Phipps Psychiatric Clinic, April 16-18. Mr. Phipps, his wife and three sons were present and a dinner was given in his honor on April 16 to express the appreciation of the community for his gift. At this dinner Dr. William H. Welch was toastmaster, Governor Goldsborough and the mayor of Baltimore were among the speakers. Sir William Osler was one of the guests On April 16, the chief address of the occasion was delivered by Sir William Osler on "Specialism in the General Hospital." Dr. Henry M. Hurd spoke on "What the Henry Phipps Psychiatric Clinic Means." It is an attempt to apply the methods and conditions in which acute diseases are treated in a general hospital to the care and treatment of insanity. He believes that the utilization of the clinic for the instruction of medical students and of physicians generally in the diagnosis and treatment of insanity will be of great service to the country at large. The patients in the clinic will be classified as follows: on the first floor, more or less violent patients will be received, and on this floor not more than eight patients will be taken in a ward. The second floor will be known as the semi-quiet section. Here patients will be transferred when they begin to improve. On the third floor patients who are quiet, either on admission or after their stay has brought them to this condition, will be accommodated. On the fourth floor quiet private patients will be placed and the fifth floor is divided into suites of two rooms and a bath, for private patients.

NEW YORK

Personal.—Dr. Herbert Upham Williams, dean and professor of pathology of the University of Buffalo medical department, has been appointed examiner in bacteriology on the State Board of Medical Examiners, vice Dr. Hiss, deceased.——Dr. Katherine L. Daly, Rochester, has been appointed special lecturer by the State Department of Health.

Skim Milk Must Be Labeled.—The Court of Appeals of Albany has upheld the constitutionality of the law which prescribes a penalty for shipping skim milk from the state to another unless it is plainly marked, and in doing so upheld the recovery of $16,800 in penalties from a dealer in New York City, though the milk was for consumption in New Jersey.

Oppose Hospital Site.—The New York Merchants' Association has asked Governor Sulzer to instruct the state authorities to withhold approval of the plans of the proposed Mohansic State Hospital for the Insane and for the New York Training School for Boys which were to have been erected in Westchester County. It is requested that this action be taken pending the passage of a bill prohibiting the establishment of similar institutions within the Croton and Catskill water-sheds from which New York City receives its water supply. Several plans for establishing tuberculosis sanitariums within this area have recently been sidetracked.

Clean-Up Suggestions.—The *Monthly Bulletin* of the State Department of Health states that the time has now arrived to urge those who are slothful and negligent, or inclined to be so, to wake up and place their surroundings in as sanitary a condition as possible before the warmer weather permits the flies and other insects to increase and multiply to spread the germs of typhoid and other diseases broadcast. The following "Fly Aphorisms" culled from various sources are presented:

"It is better to screen the cradle and wear a smile than scoff at the precaution and wear mourning."

"Flies in the dining-room usually precede nurses in the sick room."

"Screens in the windows prevent crape on the door."

"Flies, as well as bad water, spread typhoid."

"A fly in the milk may mean a member of a family in the grave."

"A fly has natural enemies; the most persistent and most effective should be man."

"It costs less to buy a screen door than to get sick and lay off for a month."

"It's a short haul from the garbage can to the dining-table via the fly route."

"If at first you don't succeed, swat, swat, again."

New York City

Resolutions Regarding Dr. Bristow.—The New York Academy of Medicine adopted resolutions regarding the death of Dr. Algernon Thomas Bristow, setting forth its sorrow at the death of Dr. Bristow and its appreciation of him as a man and a physician.

Small-Pox on Cunarder.—The Cunard steamer *Pannonia*, from Trieste and Naples, on her arrival at this port reported an outbreak of small-pox among the steerage passengers. After complete fumigation, 111 passengers were left at Hoffman's Island for further observation.

Personal.—Dr. John H. Carroll has been appointed examining physician to the Municipal City Service Commission.——Dr. William S. Applegate, Flatbush, was given a farewell dinner by the Flatbush Medical Society of which he is president, April 10, to mark his retirement from active practice.——Dr. Lewis Stephen Pilcher, Brooklyn, has been appointed examiner in diagnosis of the State Board of Medical Examiners in place of Dr. Glentworth R. Butler, resigned.

No Island Hospital for the Bronx.—At a recent meeting of the Board of Estimate it was decided to abandon the project of building a hospital for contagious diseases for the Bronx on North Brothers Island. The Bronx favored the island site instead of one on the mainland but it was pointed out that the other boroughs made no objections to such hospitals. Commissioner Lederle was instructed to look over certain sites in the Bronx that had been suggested as appropriate for this purpose.

The Hall of Health.—At a meeting in the Museum of Natural History, April 16, a new institution in the life of this city was opened. This is to be known as the Public Hall of Health. The audience numbered more than 1,000 persons and received with enthusiasm the announcement that this was the second stage of the campaign in educating the people as to the value of the clean-up movement that has been initiated by the Department of Health. The Health Commissioner emphasized the point that the most efficient health department and street cleaning department in the world could not effectually clean up New York and keep it clean without the cooperation of the people. The Hall of Health hopes to accomplish four things: First, to get the city physically clean; second, to make a decided reduction in the death-rate of the city; third, to educate the public so that they will never again let the city get dirty as it is now; fourth, to establish, eventually, by changes in the present regulations and perhaps by cooperation with permanent citizens' organizations a permanent clean-up organization. A lantern-slide exhibition was given showing the filthy conditions actually found by the Health Department throughout the city by its inspectors. The Hall of Health contains instructive exhibits showing the relation of filth and insects to the spread of disease.

PENNSYLVANIA

School Children Afflicted.—Results just compiled show that medical inspection was badly needed in the public schools of Altoona. Investigation shows that out of 7,277 examined, 4,823 were recommended for some form of medical treatment, but the general defect discovered was decayed teeth, 3,107 being afflicted. Six hundred and thirty-eight had more than three decayed teeth each. Enlarged tonsils totaled 1,735. Eye-strain, 750. Not a single case of tuberculosis was found.

Hospital News.—The new addition to the York Hospital erected at a cost of $25,000 will be opened to the public about May 1. The addition will greatly increase the capacity of the institution.——At the annual meeting of the trustees of the Passavant Memorial Home for the Care of Epileptics, Rochester, plans were made for furnishing the newly-erected building for the shelter of male epileptics. The new building cost $25,000 and will accommodate fifty patients. There are now seventy-three inmates of whom forty-three are women.

Philadelphia

Personal.—Dr. Theobold Smith, Harvard University, delivered an address to the Pathological Society, April 24, on "An Attempt to Interpret Present-Day Uses of Vaccines."——Dr. Ernest La Place has recovered from a serious illness with septicemia caused by a scratch received while operating.

Old Hospital Demolished.—On April 14 the demolition of the building on the northwest corner of Twelfth and Washington Streets was started. This building was originally used as the City Hospital and the ground extending west for two squares was used as the Potter's field. From 1831 until 1833 the building was used as an isolation hospital for the treatment of contagious diseases.

Leidy Memorial Meeting.—The first meeting under the Dr Joseph Leidy memorial foundation was held in Houston Hall of the University of Pennsylvania, April 17. This foundation has been established in memory of the former professor of anatomy by his nephew, Joseph Leidy, Jr. Addresses were made by Dr. Edmund Beecher Wilson of Columbia University, and Dr. Charles Sedgwick Minot of Harvard University. The gift for the foundation will be used for a series of scientific lectures by specialists.

Waiters Must Be Healthy.—Precautions against the transmission of communicable diseases by its dining-car and restaurant employees will be hereafter rigidly observed by the Pennsylvania Railroad. The following announcement was made by the management April 18: "There is to be a quarterly physical examination of every employee who has anything to do with the preparation or serving of food. Dishwashers, kitchen helpers, cooks and waiters must undergo an examination every three months, and only a 100 per cent. report on their physical condition will permit their remaining in the service. While those suffering from tuberculosis, diseases of the eye or skin, and any other communicable disease, may not be employed in any capacity where they might come in contact with food, further precaution will be taken in debarring them from employment in places where linens and tableware are kept."

Alumni Meeting.—The annual meeting and banquet of the alumni association of the medical department of the University of Pennsylvania was held in the Bellevue-Stratford, April 18. Dr. William Pepper, dean of the medical school, was toastmaster and addresses were made by Edgar F. Smith, provost of the University, Dr. Richard C. Cabot, Boston, Dr. Lewis H. Taylor, Washington, D. C., and Dr. John G. Clark. The following officers were elected: president, Dr. John B. Deaver; vice-presidents, Drs. John K. Mitchell, Richard C. Norris, S.

M. Hamill, Lewis H. Taylor, Casper W. Sharples, Walter R. Weiser and Alexander R. Craig; historian, Dr. William Pepper; secretary and treasurer, Dr. G. Morris Piersol; and executive committee, Drs. James Tyson, George E. de Schweinitz, George C. Stout, Allen J. Smith, Charles W. Burr, Lewis H. Adler, Jr., George G. Ross, B. A. Thomas, Fred H. Klaer and Henry P. Brown, Jr.

GENERAL

Physicians of Southwest to Meet.—The annual meeting of the Medical Association of the Southwest will be held in Kansas City, October 7-8.

Military Surgeons to Meet in Denver.—The twenty-second annual meeting of the Association of Military Surgeons of the United States will be held in Denver, September 16-19.

Alienists to Meet.—A meeting of the alienists and neurologists of the United States will be held in Chicago, June 24-27. Dr. W. T. Mefford, 2159 W. Madison Street, Chicago, is in charge of the executive details.

Meeting of Health Board Officers.—The annual Conference of State and Provincial Boards of Health of North America will begin its session in St. Paul, Friday, June 13, under the presidency of Dr. W. F. Snow, Sacramento, Cal. In all probability, some of the sessions will be held on the campus of the university in Minneapolis.

Canal Zone Notes.—At the annual meeting of the Medical Association of the Isthmian Canal Zone held in Ancon, March 15, Dr. W. M. James was elected president; Dr. Lewis B. Bates, vice-president, and Dr. D. F. Reeder, secretary-treasurer, all of Ancon. On March 29 there was a special meeting of the association at which a delegation of members of the United States Clinical Surgery Society was entertained.——Drs. H. A. Greenwood, Ancon, and B. F. Cliff, Panama City, of the Colon Hospital staff, have resigned, the first to accept a position with the Guayaquil and Quito Railroad, Ecuador, and the second to enter private practice in the United States.

Antituberculosis Association.—The ninth annual meeting of *the National Association for the Study and Prevention of* Tuberculosis will be held in the New Willard Hotel, Washington, D. C., May 8-9, under the presidency of Homer Folks, LL.D., New York. At the meeting of the advisory council on the first evening, the subject for discussion is. "The Antituberculosis Movement and Its Relation to the Campaign Against Other Preventable Diseases," and at this session the committee on hospitals for advanced cases will make its report. On the morning of May 9, there will be a joint session of the Clinical and Sociologic sections at which there will be a symposium on "The Tuberculosis Problem from the Sociologic and Medical Points of View."

Physicians and Surgeons Congress.—The preliminary program of the ninth meeting of the Congress of American Physicians and Surgeons to be held in Washington, D. C., May 6-7, under the presidency of Col. William C. Gorgas, M. C., U. S. Army, announces that on the afternoon of the first day the subject for consideration will be "The Study of Renal Functions," on which papers will be read by Drs. Henry A. Christian, Boston; Theodore C. Janeway, New York City, and Leonard G. Rowntree, Baltimore. These papers will be discussed by Drs. Hugh Cabot, Boston; George Dock, St. Louis, and John T. Geraghty and William S. Thayer, Baltimore. In the evening Dr. Gorgas will give the presidential address on "Sanitation at Panama as it Relates to Sanitation in the Tropics Generally." A reception will follow. The subject for the second day's consideration is "The Development of Tissues in Vitro." Papers will be read by Drs. Ross G. Harrison, New Haven, Conn.; Montrose T. Burrows, New York City, and Robert A. Lambert, New York City, dealing, respectively, with the life of tissues outside the organism from the embryologic, physiologic and pathologic standpoints. These papers will be discussed by Drs. Leo Loeb, St. Louis; Warren H. Lewis, Baltimore, and others.

FOREIGN

Congress in the Orient on Tropical Medicine.—The third congress of the Far Eastern Association of Tropical Medicine is to be held at Saigon, French Cochin China, November 8 to 15. The first congress was held in Manila in 1910 and the second in Hongkong in 1912.

Centennial of Munich Hospital.—The fifteenth *Annalen* of the public hospitals of Munich is published as a volume of 722 pages, half of which is devoted to a historical review of the personnel and work of the leading municipal hospital during the century of its existence, affording an interesting oversight of the prevalence of epidemics and of the morbidity in general as the standards of hygiene have been raised in this large German city as the hundred years progressed.

Other Deaths Abroad.—The following deaths are noted: Alfred Lewis Galabin, M.R.C.S., England, 1872; M.D., Cambridge, 1873; consulting obstetric physician to Guy's Hospital, London; a member and president in 1889-90 of the Obstetrical Society of London and president of the Hunterian Society; for several years editor of the *Obstetrical Journal*, president of the section of obstetric medicine of the British Medical Association, 1892; author of standard text-books on midwifery and diseases of women; died at his home in London, March 25, from heart-disease, aged 70.——Deputy Inspector General G. Saunders, C.B., M.R.C.S., England, 1845; who served throughout the Crimean War and was senior medical officer at Hong Kong during the fever epidemic in 1865; died at his home in Tunbridge Wells, March 6, aged 89.

LONDON LETTER

(From Our Regular Correspondent)

London, April 12, 1913.

The Government Inquiry Into Nostrums

Further evidence on the part of the proprietors of nostrums has been given at the government inquiry. Mr. Uredenburg, the literary representative of Raphael Tuck & Co. (art publishers), stated that he wrote the health hints contained in the book, "Hints to Mothers by M.D. of London," issued by the proprietors of Steedman's Soothing Powders (a preparation extensively given to children during dentition by the poorer classes). He said that he obtained his information from various encyclopedias and popular medical works. He then submitted the matter to his own physician. The matter was next sent to Messrs. Steedman and the references to the soothing powders were inserted according to their instructions. The manuscript as amended was not submitted to the physician.

The Lister Memorial Fund

Considerable progress is being made with the Lister Memorial Fund. Committees have been formed by Oxford, Cambridge, Durham and other universities to promote the memorial, and arrangements have been made for the formation of committees in the British dominion and in foreign countries. The details of the memorial have been given in The Journal.

The Conveyance of the Anthrax Bacillus in Clothes

Anthrax is almost invariably contracted by persons working with infected wool, and is therefore confined to those engaged in that occupation. In the following case the victim was not brought into contact with the source of infection: A woman aged 19 came to Guy's Hospital with a pimple on her face and was given a lotion. Next day a diagnosis of anthrax was made, and on the following day she succumbed to the disease. At the inquest it was stated that her husband, a laborer, handled foreign hides. The men engaged in this work were provided with special coats but did not trouble to wear them, although three contracted anthrax, in 1903, 1905 and 1911. Dr. Spilsbury, pathologist, said that the woman must have contracted the disease from her husband's clothes. Possibly the bacillus got into her eye and so reached her nose. It was not necessary to have a scratch.

PARIS LETTER

(From Our Regular Correspondent)

Paris, April 4, 1913.

The Lessons of the Balkan War

On April 1, Professor Delorme, inspector-general of the military sanitary service, read before the Académie de médecine an interesting paper on long-distance transportation of the wounded during the Balkan War. Experience has shown that removal from the battlefield has been dangerous for the wounded Bulgarians and Servians as well as the wounded Turks. From hearing it repeated continuously that under the first aseptic dressing the healing of military wounds is easy, sure and constant, men have become persuaded that the transportation of a wounded man scarcely differs from that of a healthy man. They forget that the wounded man needs care during this transportation. The point of view which regards the clearing up of a battle-field as an administrative rather than a surgical problem is wanting in humanity. The principal mission of first-aid stations and ambulances is something more than the removal to a distance of the largest possible number of wounded. Account should be taken of the difficulties or the hazards of the task. When, as in the Turkish army, the medical corps on the battle-field experience too great difficulties to assure the first treatment of wounds, it is desirable that at places where the wounded are assembled, as at crossroads or along the railroad, there should be stations for medical service and ambulances. When, as in the Bulgarian army, the line of removal along the route is of considerable extent and circumstances render transportation very slow and difficult, there is need of installing in the line of stations, if not hospital centers, at least centers where dressings may be applied, examined and renewed. Delorme thinks, moreover, that the service for the removal of the wounded along the route has not sufficient flexibility, and that the route and time of march of the ambulance wagons are too closely connected with that of the administrative wagons, whose speedy return to the sources of supply is a necessary condition.

Meeting of the Societies of Medical Students

Besides the associations of students which have existed in France for a long time, there have recently been formed, the Associations corporatives des étudiants en médecine for the purpose of facilitating the professional instructions of the members, of improving, completing and perfecting medical instruction, and of defending the present and future interests of medical students. These associations have recently formed a federation and have organized a congress which was held in Paris, March 27 to 29. The eight incorporated associations of medical students were from Algiers, Bordeaux, Lyons, Paris, Marseilles, Rennes, Caen and Tours. The medical sections of the general associations of students of Lille, Besançon and Grenoble were also represented. A resolution was passed demanding that the hospital *stage* should be extended to other services than those which now admit *stagiaires*, to relieve the overcrowding in the services now open and to make use of the clinical material in the other services. It was also voted that predominance should be given to the medical sciences, properly speaking, over the accessory sciences of medicine. The clinical examinations ought to be increased in number, and theoretical examinations decreased. A resolution was passed that a control ought to be established over proprietary schools of medicine, and that the examinations by jury should be modified so that the study and the value of examinations in the *écoles* and the *facultés* should be equal. Representation of students on the councils of the medical schools and on the disciplinary councils of the Public Charities (Assistance Publique) was also demanded. A protest was made against the admission of foreigners to the examination for internships, and demand was made that internships in the hospitals should be reserved for French students.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, April 18, 1913.

Annual Meeting of the German Surgical Association

Of the congresses held during the last week in March, the meeting of the Deutsche Gesellschaft für Chirurgie was the most important. In the present letter, therefore, I shall give a report of the transactions, selecting the most important subjects from the enormous amount of material presented.

BONE AND JOINT TUBERCULOSIS

Garrè of Bonn delivered the leading address on the treatment of tuberculosis of the bones and joints. Either the conservative or operative treatment should be applied, according to the individual case, and the indications and final results are different, according to the location of the affection. Tuberculosis of the shoulder-joint was treated in most cases with injections of iodoform, but in severe cases a resection by the method of von Langenbeck was made. Even in cases treated conservatively ankylosis usually resulted. The late results of resection were unexpectedly favorable, so that Garrè advocates enlarging the indications for resection. In tuberculosis of the elbow-joint of children a successful result is usually attained with injections of iodoform and fixation, but in adults resection must frequently be resorted to. The late results of conservative treatment are not very brilliant. Those in whom resection has been performed usually showed good healing, but ankylosis was present in half of the cases. The preferable technic is by Ollier's method and for secondary operations Helferich's method of interposition of tissue.

In suppuration of the wrist the ordinary resection should not be made, but one which spares as much of the tissues as possible. Hip disease should, as a rule, be treated conservatively with a walking cast with stirrup and iodoform treatment only in case of cold abscesses. A forcible correction should be avoided, and in case of contracture, treatment by extension is appropriate. After the joint has become free from pain, the result gained should be maintained by a large plaster cast or a leather splint; the Hessing apparatus presents no advantage. In every case ankylosis is to be aimed at. Only in the most severe cases should one attempt resection to save life. The final results of resection are discouraging: one-third of the patients died of tuberculosis and the remainder showed fairly good results only in half of the cases.

In the knee, the results of conservative treatment, even of mild cases, are not satisfactory; healing resulted in 51 per cent., generally with a stiff joint. On the other hand, resection carried out by the Textor incision gives good results. Subsequent investigation showed that, aside from about 5 per cent. who died from tuberculosis, 92 per cent. were cured. Even in children resection is advisable in all severe cases, as shortening often remains even after orthopedic treatment. Up to the thirteenth year of life there is the danger of later contracture after resection, which should be avoided if possible. In the ankle, resection is employed only in severe cases, according to the technic of König. Tuberculosis foci of the bone in the neighborhood of joints should be removed as early as possible; the cavity then plugged with a filling or with fat. Burrowing abscesses are punctured and injected with iodoform, but never incised. Roentgenotherapy has not given good results; its disadvantages are the small depth of action and the injury to the skin. General treatment in all cases of surgical tuberculosis is of the greatest importance, inunctions, baths, especially open-air treatment, climatic treatment, and sun-baths.

In the discussion, Bier of Berlin remarked that he applied conservative treatment even in severe cases of tuberculosis of the joints. He avoids every form of fixation of the diseased joint and treats it with passive hyperemia, iodid and removable dressings which relieve the joint of weight bearing. He presented a large number of severe cases which had recovered with complete mobility. De Quervain of Basel stated that he had seen splendid results from Rollier's treatment by insolation and mountain climate during the last ten years. The application of a general exposure to the sun and the continuation of the treatment for months and years are very important. Besides mountain climate, the seashore should also be considered. The cure of surgical tuberculosis under these circumstances results without the formation of scars and is therefore preferable to operations, which are now only rarely done in sanatoriums. In cases with amyloid degeneration and severe secondary infections this treatment is contraindicated.

Ritter of Posen applies active and passive hyperemia, the Roentgen rays and plaster casts. König of Marburg has seen good results from local and general treatment; he has found radiation with mercury quartz lamps a good substitute in our climate for the mountain sunshine. Wilms of Heidelberg has employed roentgenotherapy in surgical tuberculosis with good results. Especially joints of the upper extremities and lymph-nodes are favorably influenced by this treatment. A course of tuberculin treatment is to be recommended for patients who give a slight von Pirquet reaction. Mountain climate and sunshine treatment combined with roentgenotherapy give the best results. Voelcker of Heidelberg recommends in desperate cases of tuberculosis of the knee an open treatment with the joint opened up and immobilized until healing permits replacement.

Iselin of Basel treated 367 patients with Roentgen rays. The injurious by-effects liable are teleangiectasis and ulceration, which may occur even a year and a half later. He had fourteen cases of ulceration from this cause. He measures the dosage by the method of Sabouraud. On account of the danger of disturbances in growth, the large joints of children should not be treated by Roentgen rays. Tough, dry forms are resistant to the treatment, while soft, suppurating ones afford a good prognosis. Spondylitis contra-indicates it, because in consequence of the absorption under the action of the Roentgen rays, kyphosis may result. Müller of Rostock takes an intermediate stand. He remarked that social conditions often forbid treatment with sun-baths. Rosenbach of Göttingen explained the theory and technic of his tuberculin treatment. It is contra-indicated with active pulmonary processes. Friedrich of Königsberg has been forced to a greater amount of operative treatment on account of the peculiarity of his material. He warns against the too long-continued use of iodid (according to Bier) in children, as there is danger of injuring the ovaries and testicles. (*Described in* The Journal, *1912, lix, 233.*)

(To be continued)

Miscellany

U. S. Senate Asked to License Friedmann

The following is taken from the *Congressional Record* of April 17:

MR. HUGHES: I introduce a bill, and ask unanimous consent for its present consideration.

MR. SMOOT: Mr. President, that has hardly ever been done in the Senate, and I think I shall have to object.

MR. HUGHES: I should like to have the bill read. I understand, of course, that objection can be made to its consideration.

THE VICE-PRESIDENT: The bill will be read by title.

The bill (S. 1222) authorizing and directing the board of medical supervisors of the District of Columbia to issue to Friedrich Franz Friedmann, without examination, a license to practice medicine and surgery in the District of Columbia, was read twice by its title.

MR. GALLINGER: Mr. President, I will have to object to unanimous consent being given to have the bill acted on at this time. There are pretty serious questions involved in it. I ask that it be referred to the appropriate committee.

THE VICE-PRESIDENT: Objection being made, the bill will be referred to the Committee on the District of Columbia.

MR. HUGHES: Mr. President, did I understand the Senator from New Hampshire to object?

MR. GALLINGER: I will have to object to the present consideration of the bill. I should like to look into it and consult some of the medical men of the District concerning it. It is a serious matter. It proposes to suspend existing law.

MR. HUGHES: The whole matter is serious. The disease which this doctor is engaged in fighting is an extremely serious matter.

MR. GALLINGER: Yes.

MR. HUGHES: Mr. President, did I understand the Senator was to see if we could not get away from objections raised by certain members of the medical fraternity and from the attitude of distrust and suspicion which seems to characterize the gentlemen who are representing the Government in their dealings with this scientist. I have been the recipient of countless letters, telegrams, telephonic communications, and personal requests from men who are standing on the brink of the grave who feel that perhaps their lives may be saved if they are permitted to take this treatment. Dr. Friedmann himself seems to be under the impression that he is absolutely under the control of the Federal service in this matter, and he thinks he is operating under the same sort of governmental supervision that he would be compelled to operate under in Germany. At his request I have introduced the bill. I regret very much that the Senator from New Hampshire thinks it necessary that the consideration of this matter should be delayed, when his single objection perhaps will mean the loss of the lives of men, women, and children who are eager and anxious to take all the risks, real or fancied, in connection with this treatment.

MR. STONE: Mr. President, will the Senator permit a question?

THE VICE-PRESIDENT: Does the Senator from New Jersey yield to the Senator from Missouri?

MR. HUGHES: I do.

MR. STONE: I should like to ask the Senator from New Jersey——

MR. WORKS: Mr. President, I again call for the regular order, since objection is made to the present consideration of the bill.

THE VICE-PRESIDENT: Objection being made, the bill will be referred to the Committee on the District of Columbia.

MR. HUGHES: Mr. President, I ask unanimous consent to have read a letter which I have received bearing on the subject matter of the bill I just introduced.

MR. PENROSE: Mr. President, I object to the reading of a letter on this subject. I do not want to pronounce this man a faker, but I think the Senate is going out of its way to give him advertisement. He may be a quack, for all I know. I have direct information that the reputable physicians of the country look with considerable doubt on his maneuvers, and that reputable medical journals criticize the Congress of the United States for the semiofficial recognition which they have already given him. I was surprised and shocked when I saw that a Senate document had been printed on his alleged cure. Were it not that the incident was past and closed, I had intended calling the attention of the Senate to the gross impropriety of recognizing a questionable "cure" by an official advertisement of that character. This is not an occasion for maudlin sentiment; it is a practical proposition whether the lives of thousands of people may not be threatened by a "cure" which is purely based on quackery and fraud.

MR. STONE: I should like to ask the Senator from New Jersey if Dr. Friedmann intends to charge $25 for each treatment?

MR. HUGHES: I have absolutely no information on that subject.

MR. LODGE: Mr. President, I ask for the regular order.

MR. HUGHES: I did not presume to ask Dr. Friedmann about that. I asked him if he would practice in the District of Columbia if given permission, and he said he would.

THE VICE-PRESIDENT: The regular order is demanded. If there be no further bills and joint resolutions, concurrent and other resolutions are in order.

Association News

THE MINNEAPOLIS SESSION

Rates for Round Trips to Minneapolis—Announcement of the Transportation Committee

The Committee on Transportation and Place of Session suggests that members consult the local ticket-agent in their home town for full information regarding rates, time limits, extensions and stop-over privileges preparatory to purchasing railway tickets for the Minneapolis meeting. The tariff schedules on file at every ticket-office will allow the local agent to quote rates from any point. In addition to this, with the assistance of the agent, a physician can plan for an additional trip either going or coming. Those who intend going to the Yellowstone Park, the Pacific Coast, Alaska or other points should arrange for tickets for the entire trip. These side trips, of course, may be arranged for from Minneapolis; but in most instances a better rate can be obtained if a complete itinerary is submitted to the local agent. The committee announces the following rates for the Minneapolis meeting:

The Transcontinental Association announces a fare via direct route from California common points to Minneapolis and St. Paul, of $75.70. Circuit fare, one way via Shasta route, or S. F. and P. S. S. Co. between San Francisco and Portland, or P. C. S. S. Co. between San Francisco and Seattle, $85.35 from San Francisco; from Los Angeles, $95.35.

From Bellingham, Everett, Spokane, Tacoma and Seattle, Wash., or Portland, Ore., to Minneapolis, $60. Inquiries should be made of your local ticket-agent for definite information concerning the date of sale and time-limit.

The Central Passenger Association advises the committee that summer tourist fares will be in effect at the time of the meeting in Minneapolis. These tickets are all of nontransferable form and will be on sale from June 1 to Sept. 30, 1913, with final return limit to reach original starting point not later than midnight of Oct. 31, 1913.

The Trunk Line Association has authorized the following rate of fare from points in its territory:

One and one-half first-class limited fare to trunk line western termini, plus summer excursion fares tendered therefrom for the round trip. Tickets to be sold to Minneapolis or St. Paul. Dates of sale, June 12, 13 and 14. Final return limit, tickets to be limited to reach original starting point, Oct. 31, 1913. Tickets to be sold going and returning by same route only. No validation of tickets for return passage will be required. Private or sleeping-cars occupied by passengers in Minneapolis or St. Paul will be parked at a charge of $10 per car per day.

We are advised that special trains and special cars are being arranged for from various points.

J. RAWSON PENNINGTON, Chairman.

Minneapolis by Way of the Northwestern Line

As THE JOURNAL has said before, there are several excellent railway lines between Chicago and Minneapolis, all of which will doubtless be used by members attending the annual meeting. Among these is the Northwestern Line, which operates six through trains daily from its magnificent new terminal. In this station are a hospital and emergency rooms under the charge of a matron and trained nurses, and a completely equipped drug-store. The railway is double-tracked and protected by automatic signals. The route is through a region made famous by the early explorers, and is noted for its natural beauty. Leaving Chicago at night, one awakes near Merrilan, Wis., 277 miles northwest of Chicago. The first large city is Eau Claire, a lumbering and manufacturing point located on the Chippewa and Eau Claire rivers. From this point on, the picturesque scenery will be found of special interest. Just before reaching Hudson a panoramic view of the surrounding country is obtained. Crossing the St. Croix River into Minnesota, the train makes a long sweeping curve to the north, and after leaving Stillwater Junction goes through a level, open country through Lake Elmo to St. Paul.

Revised List of Hotels Announced—Desirability of Making Reservations at Once

The Subcommittee on Hotels for the Minneapolis session, June 17-20, has revised the list of hotels. This new list should be followed in place of the one in The Journal, March 8. Most of the changes are in the hotels selected as headquarters for the sections. The commitee has made these new arrangements for the better entertainment of the members.

Those who are particular about their accommodations should secure reservations at once. They can write direct to the hotels, or to the undersigned, 1106 Donaldson Building, Minneapolis, Chairman of the Committee on Hotels, who will be pleased to give any assistance possible. In writing, one should state the scientific section of the Association preferred and also as exactly as possible the lodgings desired, that is, the approximate price, whether with or without bath, and who will be in the party.

S. Marx White, Chairman.

Hotel, Section Headquarters and Street Address	No. of Rooms	Without Bath		With Bath	
		Single	Double	Single	Double
Radisson—*General Headquarters*—Seventh St., bet. Nicollet and Hennepin	320	$1.50	$2.50	$2.50 to $5.00	$4.00 to $7.00
West—*Practice, Pathology, Dermatology, Hospitals,* and *Nervous*—Fifth St. and Hennepin Av	375	1.50 to 3.00	2.50 to 4.00	2.00 to 4.00	3.50 to 6.00
Leamington—*Surgery*—1013 Third Av., South	600	1.50	2.50	2.50 to 5.00	5.00 to 7.00
Andrews—*Obstetrics, Gynecology and Abdominal Surgery*—Fourth and Hennepin	200	....	....	1.50 to 3.00	2.50 to 4.00
Dyckman—*Ophthalmology*—Sixth St., bet. Nicollet and Hennepin	200	....	....	2.00 to 4.00	4.00 to 6.00
Plaza—*Laryngology, Otology and Rhinology*—1700 Hennepin Av	100	....	....	3.00 to 5.00	5.00 to 7.00
Majestic—*Pharmacology and Therapeutics,* and *Diseases of Children*—Seventh and Hennepin	100	1.00 to 2.00	1.50 to 2.50	1.50 to 3.00	2.50 to 4.00
Nicollet—*Stomatology*—Washington, Hennepin and Nicollet Avs	150	1.00 to 1.50	2.00 to 2.50	2.00 to 2.50	3.00 to 3.50
Rogers—*Preventive Medicine and Public Health*—27 Fourth St., South, corner of Nicollet	150	1.00 to 1.50	2.00 to 2.50	2.00 to 3.50	3.00 to 5.00
Vendome—*Genito-Urinary Diseases*—19 Fourth St., South	200	1.00 to 2.00	2.00 to 3.00	2.50 to 3.00	3.50 to 4.00
St. Paul (in St. Paul)—*Orthopedic Surgery*—Fifth and St. Peter Sts.	360	....	....	2.50 to 5.00	4.00 to 7.00
Other Hotels In Minneapolis					
Allen—200 Third St., South, corner of Second Av	65	1.00	1.50	2.00	2.50
Camfield—First Av., South, and Eighth St	100	....	....	1.00 to 2.00	2.00 to 3.00
Clinton—Fourth Av., South., and Grant St	65	....	....	2.00	3.50
Elgin—Hennepin Av. and Eighth St	150	1.00	1.50	1.50 to 2.00	2.00 to 3.00
Hampshire Arms—Fourth Av., South, and Ninth St	350	1.00	1.50	2.00	3.00
Hastings—Twelfth St. and Hawthorne Av	150	....	....	1.50 to 2.00	2.00 to 3.00
Maryland—Grant St. and Vine Pl	200	....	....	1.50 to 2.50	2.50 to 4.00
National—Second Av., South, and Washington	200	1.00 to 1.50	2.00 to 3.00	1.50 to 3.00	3.00 to 5.00
Revere—316 Second Av., South	100	1.00	1.50	1.50	2.50
Rosslyn—707 Summit Av	70	....	....	1.00 to 1.50	2.50 to 4.00
Williston—500 Tenth St., South, corner of Fifth	60	1.00	1.50	2.00	2.50
St. Paul Hotels					
Aberdeen—Dayton and Virginia	200	....	....	1.50 to 4.00	3.00 to 5.00
Frederick—Fifth and Cedar Sts	100	1.00	2.00	1.50 to 4.00	2.50 to 5.00
Ryan—Robert St.	300	1.00 to 2.50	2.00 to 4.00	2 00 to 4.00	3.00 to 6.00
Willard—Tenth and St. Peter Sts	200	.75	1.25	2 00 to 4.00	3.00 to 6.00

Marriages

Jones L. Moorefield, M.D., Guilford College, N. C., to Miss Viola Hudson of Pomona Mills, N. C., in Danville, Va., April 6.

Henry Floyd Keever, M.D., to Miss Elizabeth Mae Seely, both of Auburndale, Mass., April 2.

William Joseph Schmitz, M.D., Baltimore, to Miss Anna Estelle Hebner, in Baltimore, April 8.

Floyd Burke Riley, M.D., Chicago, to Miss Beulah Nye Bennison of Los Angeles, Cal., at Cedar Falls, Ia., April 24.

Arthur Ward Van Riper, M.D., to Miss Daisy Dwight, both of Passaic, N. J., in New York City, April 15.

John T. Tenney, M.D., Warner, Alta., to Miss Olga Polin of San Luis Obispo, Cal., at Spokane, Wash., March 22.

Harry McPherson Brandel, M.D., Oshkosh, Wis., to Miss Adele Marie Persch of Chicago, April 12.

J. Leland Boogher, M.D., to Mrs. A. M. Holliday, both of St. Louis, April 12.

Deaths

Eliphalet G. Edwards, M.D. McGill University, Montreal, 1855; formerly president of the Kent County (Mich.) Medical Society and an honorary member of the Michigan State Medical Society; a surgeon in the British Army during the Crimean War and thereafter surgeon for the Grand Trunk Railway; for one term president of the College of Physicians and Surgeons of Ontario and for twenty years a member of the Ontario Medical Council; since 1883 a practitioner of Grand Rapids, Mich.; a member of the board of health and dean of the Grand Rapids Medical College; died in St. Mary's Hospital, Grand Rapids, January 18, from pneumonia, following an operation for strangulated hernia, aged 80.

James Edwin Harris, M.D. University of Maryland, Baltimore, 1886; for about fifteen years after his graduation in medicine and dentistry a practitioner of London, England; thereafter for six years a resident of Cape Town, Cape of Good Hope, South Africa, and for the last six years a resident of Baltimore; died in a sanitarium in Baltimore, April 8, from cerebral hemorrhage, aged 49.

Clara Jane Alexander, M.D. Woman's Medical College of Pennsylvania, Philadelphia, 1889; a member of the American Medical Association; formerly of Boston, Mass.; surgeon to the New England Hospital for Women and Children and attending physician to the Pope Dispensary of that hospital, Boston; for fifteen months a missionary of the American Board in Mysore, South India; died about April 13, in the Mary Calvert Holdsworth Memorial Hospital, Mysore.

Robert D. Robinson, M.D. Kentucky School of Medicine, Louisville, 1887; for several years a practitioner of Santa Rosalia Parral and Torreon, Mex.; one of the editors of the International Medical Association of Mexico; later a practitioner of El Paso and a member of the State Medical Association of Texas; died suddenly at his home in El Paso, April 9, from heart disease, aged 52.

Samuel Bell, M.D. University of Michigan, Ann Arbor, 1864; a member of the American Medical Association; surgeon of the Fifteenth Wisconsin Volunteer Infantry during the Civil War; formerly surgeon-general of the department of Wisconsin, G. A. R., and president of the first board of health of the state; a resident of Beloit, since 1874; died at his home, April 18, aged 71.

Hezekiah John Crumpton, M.D. Rush Medical College, 1871; a member of the American Medical Association; who went to California during the gold rush in 1849 and was for many years engaged in mining; vice-president of the Society of California Pioneers; died at his home in Piedmont, Cal., April 8, from senile debility, aged 84.

Marion D. Carter, M.D. Missouri Medical College, St. Louis, 1882; a member of the American Medical Association; of Los Angeles, Cal., aged 55; died in the Crocker Street Hospital, Los Angeles, April 10, from injuries received two days before in a collision between his automobile and an interurban car at Nadeau Station.

George Washington Corey, M.D. Rush Medical College, 1859; surgeon of the Twelfth Missouri Cavalry during the Civil War; later division surgeon of the Union Pacific System at Cheyenne, Wyo., and a practitioner of Sawtelle, Cal.; died in the hospital of the Soldiers' Home, Sawtelle, April 2, from senile debility, aged 80.

Jared Grover Baldwin, M.D. New York University, New York City, 1853; consulting physician to the Hahnemann Hospital, New York City, and for many years censor of the New York Homeopathic College and Hospital; died at his home in New York City, April 11, from senile debility, aged 85.

Morris D. Rouse, M.D. University of Pennsylvania, Philadelphia, 1866; a veteran of the Civil War; for thirty years a practitioner of Buffalo; died at his home in that city, April 10, as the result of injuries received two days before, in a collision between his bicycle and an automobile, aged 76.

Howard C. Rice, M.D. Ensworth Medical College, St. Joseph, Mo., 1910; a member of the American Medical Association; instructor in materia medica in the Training School for Nurses, Ensworth Hospital; died at his home in St. Joseph, April 9, from pneumonia, aged 30.

Thomas M. Jackson, M.D. Cincinnati College of Medicine and Surgery, 1874; a member of the Medical Society of the State of Pennsylvania and president of the Mercer County Medical Society in 1912; died at his home in Hadley, Pa., April 7, from arteriosclerosis, aged 67.

Byron Clifford Cheeseman, M.D. College of Physicians and Surgeons, Baltimore, 1880; a member of the American Medical Association; a member of the staff of St. Joachim's Hospital, Watertown, N. Y.; died at his home in that city, April 3, from nephritis, aged 56.

Harry Frederick Diers, M.D. Northwestern University Medical School, Chicago, 1911; of Bristow, Neb.; a member of the American Medical Association; died at the home of his parents in Gresham, Neb., April 3, from abscess of the brain, aged 26.

Abraham S. Rosenberger, M.D. Homeopathic Hospital College, Cleveland, 1870; of Covington, O.; died at the home of his daughter in Dayton, O., April 6, from nephritis, aggravated by exposure and excitement during the recent flood, aged 64.

Edward Sawyer Bacon, M.D. Harvard Medical School, 1889; a member of the American Medical Association and a specialist on diseases of the ear, nose and throat of Providence, R. I.; died at his home in that city, April 8, aged 50.

John F. Collins, M.D. George Washington University, Washington, D. C., 1886; for many years a medical examiner in the pension office, Washington; died in Garfield Hospital in that city, April 11, from arteriosclerosis, aged 67.

Joseph Davis, M.D. Albany (N. Y.) Medical College, 1908; a member of the American Medical Association; medical director of the Samuel W. Bowne Memorial Hospital, Poughkeepsie, N. Y.; died at the state sanatorium for tuberculosis, Raybrook, N. Y., April 1, from tuberculosis, aged 26.

Charles Born, M.D. University of Leipzig, Germany, formerly assistant professor of anatomy in his alma mater; for more than twenty years a practitioner of Cincinnati; died at his home, April 3, from heart disease, aged 73.

Henry G. Addy (license, New Brunswick) a practitioner since 1882; surgeon of volunteers during the Civil War and since its close a resident of St. John, N. B.; died recently at his home in St. John, aged 78.

John M. Harrah, M.D. Rush Medical College, 1865; a member of the Indiana State Medical Association and a pioneer practitioner of Greene County; died at his home in Switz City, April 12, aged 73.

Isaac Whittington Timmons, M.D. Homeopathic Medical College of Missouri, St. Louis, 1870; for forty-two years a resident of Winona County, Minn.; died at his home in Winona, April 13, aged 79.

Egbert D. Doolittle, M.D. Bellevue Hospital Medical College, 1870; formerly president of the Lehigh Valley Homeopathic Medical Society; died at his home in Easton, Pa., April 12, aged 66.

S. Jean Stevenson-Monroe, M.D. Woman's Medical College of Pennsylvania, Philadelphia, 1870; died at her home in Bemus Point, N. Y., January 4, from carcinoma of the rectum, aged 71.

Patrick Kelley Wortham, M.D. Missouri Medical College, St. Louis, 1879; for many years a practitioner of Waco, Tex.; died at the home of his daughter in that city, April 8, aged 75.

George W. Sprinkle (license, Virginia); a member of the Medical Society of Virginia; for forty-two years a practitioner of Smyth County; died at his home in Marion, April 8, aged 67.

Lawrence Y. Abernathy, M.D. Chattanooga (Tenn.) Medical College, 1904; for six years a member of the hospital corps of the Army; died at his home in Chattanooga, April 5, aged 30.

George Martin, M.D. Laval University, Montreal, Que., 1906; for several years connected with the Bruchesi Institute in that city; died at his home, April 1, from diphtheria, aged 31.

Edward E. Fauver, M.D. Lincoln (Neb.) Medical College, 1895; of Loveland, Colo.; died at St. Luke's Hospital, Denver, April 4, a month after a surgical operation, aged 40.

John H. Goss, M.D. Cincinnati College of Medicine and Surgery, 1860; of Lancaster, O.; died in the Park Street Hospital in that city, April 14, from diabetes, aged 75.

Alfred A. Bagwell, M.D. Medical College of Georgia, Augusta, 1889; a member of the Medical Association of Georgia; died at his home in Ingleside, Ga., April 5.

Harry A. Stutzman, M.D. Medico-Chirurgical College of Philadelphia, 1905; died at his home in Tower City, Pa., April 4, from pleuropneumonia, aged 36.

Snider M. Carlton, M.D. Reform Medical College of Georgia, Macon, 1859; died at his home in Thornton, Tex., April 2, from senile debility, aged 83.

Charles F. Nichols, M.D. University of Maryland, Baltimore, 1887; postmaster of Vienna, N. Y.; died at his home in that place, April 4, aged 47.

Hiram H. Gunby, M.D. University of Maryland, Baltimore, 1855; died at his home in Crisfield, Md., about April 9, from pneumonia, aged 80.

Daniel E. Lake, M.D. Eclectic Medical College of Pennsylvania, Philadelphia, 1871; died at his home in Fulton, N. Y., March 1, aged 75.

William P. Booker, M.D. Kansas City (Mo.) Hospital College of Medicine, 1885; died suddenly at his home in Caney, Kan., recently.

Edward Francis Guth, M.D. University of Pennsylvania, Philadelphia, 1862; died at his home in Philadelphia, March 13, aged 72.

Isaac Sternlicht, M.D. University of Vienna, Austria, 1889; died at his home in New York City, April 9, from heart disease, aged 50.

J. A. Hall (license, Arkansas, 1905); died at his home in Greenway, March 18, from nervous prostration, aged 53.

Thompson J. Taylor, M.D. Jefferson Medical College, 1874; died at his home in Richmond, Ky., March 20, aged 60.

William H. Sampson (license, Indiana); died at his home in Brookston, April 5, from paralysis.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

STANDARDIZATION OF DISINFECTANTS

Report of the Council on Pharmacy and Chemistry

Believing the general adoption of a standard method for the valuation of disinfectants important, the Council appointed a committee to consider the feasibility of adopting such a method. The committee submitted a report which was adopted by the Council, with the recommendation that it be published. Following is the report.

W. A. Puckner, Secretary.

Your committee, having considered the question of the recommendation of a method for the standardization of disinfectants, respectfully submits the following:

In the examination of disinfectants it is necessary that due attention be paid to certain factors which have an important bearing on the results to be obtained, among these factors being the test organism, the temperature of the experiment, the proportion of culture to disinfectant, the amount of inoculation in subculture tubes, the media for subculture and organic matter. Neglect of attention to these factors will necessarily result in misleading results. There are at the present time three methods that may be given consideration.

RIDEAL-WALKER METHOD

The first is the Rideal-Walker method, extensively used in England and the British colonies. The original Rideal-Walker method seems to have the following objectionable features: (1) the latitude allowed in determining the coefficient; (2) the lack of definiteness in the proportion of culture added to the disinfectant; (3) the latitude allowed in the temperature of medication; (4) the use of seeding tubes 5" by ⅝" with cotton plugs, which necessitated their removal from the water bath and (5) the possibility of shaking from the sides of the tube organisms that had not been fully exposed to the action of the disinfectant and thus giving erroneous results.

The first objection has been eliminated by some workers, by arbitrarily limiting the determination of positive or negative result to a 2½-minute or 5-minute period. The other objections, however, still stand.

THE LANCET METHOD

The second is the *Lancet* method, a modification of the Rideal-Walker. Although in some respects a distinct advance over the Rideal-Walker method, it possesses the following objectionable aspects: (1) variations in strains of *B. coli communis* are known to be greater than those in strains of *B. typhosus*; (2) McConkey's bile salt media exert a variable but none the less restraining influence on attenuated organisms of the typhoid-colon group; (3) the method gives no definite rule for decreasing the strength of dilutions tested; (4) lengthening of the time to thirty minutes appears to have no very special advantage; (5) the special apparatus required, particularly the spoons, interferes to some extent with the general employment of the method.

THE HYGIENIC LABORATORY METHOD

The third method is that known as the Hygienic Laboratory phenol coefficient. This method has some of the features of the Rideal-Walker method as well as the *Lancet* method, but also contains important modifications. This method has been quite generally adopted in the United States and is now used by the federal government in connection with the purchase of disinfectants. It has also been officially adopted by some state boards of health. At the Annual Conference of State Boards of Health with the Public Health Service, held in Washington, D. C., June 1, 1912, the following resolution was passed:

> "*Resolved*, That the United States Public Health Service Hygienic Laboratory method for the determination of the phenol coefficient of disinfectants be recommended to the several state boards of health as the standard method; that all regulations regarding disinfectants be based on this standard; and that the phenol coefficient be required to be stated on the label of each package containing such disinfectant"

It is evident from the above statements that the method is coming into very general use in the United States and probably will supplant the other methods for the standardization of disinfectants in this country.

As originally proposed, the method did not require the use of organic matter in performing tests, but has recently been modified, so that the test may be used either without or with organic matter.

Your committee has considered the question carefully and has decided to recommend to the council the adoption of the Hygienic Laboratory phenol coefficient as published in Hygienic Laboratory Bulletin 82. The details of the test, as well as a discussion of the various factors concerned in the standardization of disinfectants, are described at length in a paper entitled, "A method of standardizing disinfectants with and without organic matter," in the bulletin referred to above.

FATHER JOHN'S MEDICINE AND THE FOOD AND DRUGS ACT

Mrs. Oscar W. Bean, Amesbury, Mass., writes:

"I have written to the Bureau of Chemistry on the subject: What does 'Father John's Medicine' contain? It is guaranteed under the Food and Drugs Act of June 30, 1906, No. 918. I always had the impression that the ingredients of all 'patent medicines' would be given when asked for after the pure food laws had been enforced and of course thought they'd be at Washington. Not finding them there, I would very much like to know its contents."

The hundreds of inquiries we receive from laymen are, as a rule, answered direct by mail. The one given above has been so answered. Our reason for printing it is that it is typical of many we get and may prove of interest to our readers.

As we told Mrs. Bean, "Father John's Medicine" is a nostrum. Like all nostrums, its composition is known only to the manufacturers. Its ingredients to-day may be different from its ingredients of yesterday, and these in turn differ from those of to-morrow. When analyzed two years ago, the chemists of the Connecticut Agricultural Experiment Station reported "Father John's Medicine" to be essentially a cod-liver oil emulsion containing about 37 per cent. of cod-liver oil by weight.

Much misunderstanding exists regarding the working of the Food and Drugs Act and the meaning of the legend: "Guaranteed under the Food and Drugs Act." This act ("the pure food law"), does not require the manufacturers of "patent medicines" to make public the composition of their nostrums. It merely demands that if the medicine contains any one of eleven drugs, or the derivatives of these drugs, the quantity or proportion of such drugs must be given on the label. These eleven drugs are alcohol, morphin, opium, cocain, heroin, alpha- or beta-eucain, chloroform, cannabis indica, chloral hydrate and acetanilid. The nostrum may contain any number of the hundreds, possibly thousands, of other drugs known and the public be none the wiser. It may contain some of the most dangerous poisons known to science, such as strychnin, arsenic, prussic acid and aconite, and no warning needs to be given of their presence. So far as the clause "Guaranteed under the Food and Drugs Act" is concerned, it means only that the manufacturer has applied to Washington for a serial number. This application is entirely optional and in making it he is not required to give any information about his product. A "patent medicine" may be, and in many cases has been, proved to be a fraudulent product, that is, misbranded or adulterated within the meaning of the act. These facts are not considered in the issuance by the government of a serial number. The only value of the guarantee is the protection it gives to the individual retailers of the product should it be declared misbranded or adulterated under the act. In other words, it throws the responsibility for misbranding or adulteration back on the manufacturer and not on the retailer.

The widespread misinterpretation of the guarantee clause has been brought about, largely, by unscrupulous manufacturers who try to make the public believe that the government guarantees the purity or value of the products on whose labels the guarantee clause appears. When the Canadians enacted a law controlling the sale of "patent medicines"—which they did about three years after the passage of our own law—they recognized the abuse of the guarantee clause and specifically prohibited by law the use of the term "guaranteed." They also made it illegal for any manufacturer to indicate that the certificate of registration (corresponding to the "serial number" in this country) in any way implied a recommendation or guarantee on the part of the government as to the merits of the article. This prohibition applies not only to statements on the label but to any published advertisements. Our national Food and Drugs Act needs modifying in this regard.

"ORIGINAL PACKAGES"

That insidious form of advertising known as the "original package" method, in which the physician is made to act as a go-between, is not peculiar to the United States; the same evil exists in Great Britain. Here is what the *Medical Press and Circular* has to say about it:

"The patent medicine vender is putting up a great fight in his efforts to get a firm grip on the medical profession. Every post brings us so-called 'literature' and samples of wonderful synthetic drugs which emanate mostly from Germany. There is a similarity between them all; their names end in 'on' or 'al' or 'ex,' a magnificent procession of letters announces their alleged chemical composition, and a list of their properties is a splendid mass of polysyllabic perfidy. They all claim to be strictly 'ethical' preparations, and they publish a formula which is either unintelligible or untruthful. Some of these drugs may be useful, but great care is necessary in prescribing them. If they are ordered in their original packages, the way is instantly laid open for the self-drugging habit. If the chemist dispenses them in his own containers, the patient, when he has learnt what he is taking, feels aggrieved at having to pay an enhanced price for what he could buy anywhere himself, and feels, too, as if his case was not receiving real individual attention—much as if his tailor passed off a ready-made suit on him. In a few years we shall have before us enough insurance statistics to form a fair idea of the extent to which these proprietary medicaments are used. The prescribing of these preparations is only one degree removed from the evil of self-dosing with 'patent' medicines. Let us hope that this practice will suffer a rapidly atrophic death at the hands of the medical community."

LOPEZ

A Fraudulent Cure for Syphilis

Dr. C. S. Bliss of Coggon, Iowa, writes:

"I am inclosing a pamphlet, "Lopez on Blood and Skin Diseases." I do not know what the remedy is but the pamphlet is getting people afraid of mercury and especially inunctions."

Lopez is called by its exploiters, the Lopez Remedy Company, Wichita, Kan., "the great Hot Springs remedy." According to their booklet:

> "Lopez is a high-class preparation, scientifically compounded entirely from more than nine of the purest herbs known or obtainable. Each separately tested as to purity, strength, etc., then as carefully and accurately compounded as the druggist prepares your physicians' prescriptions. Positively contains no mercury, morphin, cocain or other poisons, and is as much a specific for children as for adults."

Like most concerns that sell a cure for syphilis, the Lopez Remedy Company rings the changes on the dangers of the mercurial treatment of this disease. And the usual farrago of nonsense is indulged in relative to the superior properties of "vegetable remedies." The federal authorities seized a quantity of this nostrum alleging that it was misbranded: first, in that the use of the word "specific" on the label "was unwarranted and misleading inasmuch as the article was not a specific"; second, in that the alcohol in the preparation "was not declared in the manner prescribed" by law; third, in that the therapeutic claims made for the stuff were rankly false and fraudulent. When the case came to trial, the judge held that lying about the curative and therapeutic properties was not misbranding and directed the jury to return a verdict of acquittal; this, too, in spite of the fact that although the stuff contained over 27 per cent. of alcohol, the label failed to state correctly the proportion of this drug as the law requires. The government chemists analyzed the nostrum and reported finding alcohol, potassium iodid, podophyllum, sarsaparilla, stillingia, eucalyptus and gentian. The analysis indicates that Lopez differs but little from the various "sarsaparilla compounds" put out by "patent medicine" makers and which used to be very popular. Whatever real or imaginary benefit was or is derived from such mixtures is due to the potassium iodid and the laxative drug they may contain. The absurdity, not to say viciousness, of recommending a preparation of this sort for the cure of syphilis can be appreciated only by physicians, but the public should at least be given warning.

Correspondence

Value to the General Practitioner of Special Training in Pulmonary Diseases

To the Editor:—It should be admitted that one of the best ways for the general practitioner to develop his general knowledge is through the specialties. It is not enough to depend entirely on places doing general work, such as the general medical dispensary, invaluable as such training is; for many of the conditions formerly treated solely in the general medical dispensaries are now handed over to special dispensaries. The result is better diagnosis and treatment for the patient, and better training for the attending physician. It is surely obvious why a dispensary for diseases of the nervous system or for diseases of children offers advantages of instruction to the physician unobtainable in the general medical dispensary, even if it attempts to handle these cases.

This generalization applies with special force to pulmonary diseases, which have long waited to receive the limited special consideration which they now enjoy. From the point of view of this note, such specialization is of interest only in so far as it relates to the general practitioner. Surely a class of diseases responsible for one-fifth of the total mortality, rendering thousands of victims chronic invalids, and causing untold suffering and expense—all of which are generally considered to be more or less within the possibility of control—deserves special consideration from the general practitioner, provided this will result in suitable returns.

If development in pulmonary diseases is not sought in the special dispensary or institution, on what sources is the general practitioner going to depend for his knowledge of diseases of the lungs? There are first, the field of general practice; secondly, the general medical dispensary and hospital ward, and thirdly, the physician's early experience. Although general practice offers opportunities for training in pulmonary diseases obtainable in no other way, it still holds true that the general practitioner will develop himself more completely and certainly more rapidly in many phases of the subject by spending some time in their special study. As for the general medical ward and dispensary, unsurpassed as they are in many of the aspects of pulmonary cases, they do not offer a man all that he needs to make him proficient in pulmonary work, which in its details and in its far-reaching relations fails utterly to receive its due measure of consideration in these places. As for a physician's early training, granted it has been in the best undergraduate course in medicine, and pursued later for a number of years in a thoroughly up-to-date hospital, no one who has properly estimated his own knowledge of pulmonary diseases at the end of this time will be so bold as to maintain that he concluded his course as resident proficient in pulmonary diagnosis or treatment, or in any measure cognizant of the broader departments of the subject.

What additional advantages are provided or what gaps are filled up in the special dispensary? Compare for a moment the handling of tuberculous patients in a well-conducted tuberculosis dispensary and in the best type of general medical dispensary. The factor of the amount of time allotted to each case is a strikingly distinguishing feature between the two, for in the latter dispensary a very limited amount of time is available to each patient, and in the former the amount of time is limited only by the necessities of each case. This makes possible another distinguishing factor, which is the use of the proper method in studying these cases, the physician's development being promoted by spending a relatively large amount of time on a few cases, and not retarded by spending the same amount of time on a large number of cases. One part of the method in these dispensaries is to chart all the physical findings, both normal and abnormal, a practice that if continued long enough perfects one in the art of physical diagnosis to an extent available in no other way and will prove of the greatest service in acute as well as in chronic cases.

Progress along these lines is slow, and is attained only by patient and painstaking effort. Not every one realizes how complicated and difficult a subject physical diagnosis of pulmonary conditions is, but a person is much impressed by this if he reviews his own past experience, or observes students in the process of studying physical signs of the lungs. The heart and other organs, in both health and disease, as a rule present much simpler problems, as far as the eliciting of physical signs is concerned, than do the lungs. Another advantage of the special dispensary to the practitioner is the coming in contact with the experience and stimulus of experts in this line of work. Of inestimable value too is the knowledge of treatment and prevention of tuberculosis cases, including an insight into the broad economic and sociologic aspects of the subject which have wide general significance.

I have barely touched on some of the advantages to the general practitioner to be derived from a special study of pulmonary diseases. If he will look more deeply into the subject, if he will learn the opinion of those who have so specialized, and above all if he will test out these advantages by taking such a special course himself, he will be convinced of the truth of these remarks. Especially to the young practitioner who has time for dispensary work on his hands, is such special training to be recommended.

Charles M. Montgomery, M.D., Philadelphia.

Sterility—A Remediable Cause

To the Editor:—When in general practice, I was occasionally consulted for the relief of sterility by couples who had been married several years, and in whom there was no apparent physical disability.

In searching for the causes, I found a suggestion in an old edition of the work on midwifery by Cazeaux that led me to think that the condition was often maintained by too frequent sexual indulgence.

Cazeaux suggested that in women the ovum is usually thrown off at the time of menstruation; but that during an orgasm provoked by sexual congress the ovum might be discharged at other times. I reasoned that in this way the ova were constantly thrown off before reaching maturity, and therefore were incapable of fecundation. I advised that for five or six months all sexual intercourse should be abstained from excepting immediately before and immediately after menstruation. I feel sure that in fifteen or twenty cases pregnancy occurred as a result of following this advice, and I am confident that in some, subsequent conceptions were brought about in the same way.

From my observation, I came to believe that sterility from these causes occurred most frequently when the husband and wife were peculiarly vigorous and especially congenial.

An Old Practitioner.

[Comment.—"An Old Practitioner" is a well-known physician of long experience who does not care to have his name published; he is not a gynecologist.—Ed.]

Gauze as a Scarifier in Vaccination

To the Editor:—I am convinced that it is fully worth while to call further attention to a new method of vaccination, originated by the Public Health Service surgeons now in the Philippines. In this method a small piece of gauze (plain and sterile) is used as a scarifier. The gauze is simply drawn over the index-finger and held by the thumb and other fingers, and the point selected is briskly rubbed until slightly abraded over an area about equal to that of a thumb-nail. The virus is then deposited on the abraded area and allowed to dry. The gauze used to rub with can be bound over the point of vaccination, if desired, but should be discarded on the following day, as if allowed to remain it may adhere and give further trouble.

This method is well suited for work on women and children. Its authors state that the operation is completed while the patients are "expecting every minute to be the next." Either capillary tubes or ivory points can be used to furnish the virus; the tubes are better, perhaps, as the virus is more abundant than that on the points, and no point is in evidence. In other respects the technic is the same as in other methods. The percentage of takes equals other methods, and fainting of nervous patients is eliminated.

F. J. McKinley, M.D., Pala, Cal.

[Comment.—Although this procedure is by no means a new one, we are glad to give further publicity to it for the benefit of those who may not have heard of this method.—Ed.]

Ligneous Phlegmon of Abdominal Wall

To the Editor:—There is an error in my article on this subject (The Journal, April 5, 1913, p. 1039). In the quotation on page 1042, this language is used: "Powers quotes with approval the suggestion of Friedrich in favor of wide excision." The next sentence commences: "In certain cases." These three words "in certain cases" belong to the former sentence, which should read, "Powers quotes with approval the suggestion of Friedrich in favor of wide excision in certain cases." The error is one of punctuation, for which I may have been partly responsible.

W. W. Grant, M.D., Denver.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

FIRST FIFTEEN MEDICAL COLLEGES IN THE UNITED STATES

To the Editor:—Please name the first fifteen medical colleges organized in the United States and the dates of organization

D. E. F.

Answer:

1. 1765: Department of Medicine of the College of Philadelphia, now the University of Pennsylvania Department of Medicine.

2. 1767: Medical Faculty of King's College, New York; reorganized as Columbia College Medical Faculty 1792; merged with the College of Physicians and Surgeons of City of New York, 1817.

3. 1782: Harvard Medical School, Boston.

4. 1797: Dartmouth Medical School, Hanover, N. H.

5. 1807: University of Maryland, Faculty of Physic (now School of Medicine), Baltimore.

6. 1807: College of Physicians and Surgeons of the City of New York; absorbed Columbia College Medical Faculty in 1817; became again Medical Department of (then) Columbia University in 1860 (see Fig. 2 above).

7. 1810: Yale Medical School, New Haven, Conn

8. 1816: Transylvania University Medical Department, Louisville, Ky.; became Kentucky School of Medicine, 1850; merged with University of Louisville, 1908.

9. 1819: Medical College of Ohio, Cincinnati; became Medical Department of University of Cincinnati in 1887; absorbed Miami Medical College and became Ohio-Miami Medical College of the University of Cincinnati in 1909.

10. 1820: Medical School of Maine, Brunswick, Maine; Medical Department of Bowdoin College.
11. 1823: Medical College of South Carolina, Charleston.
12. 1825: Columbian College (now George Washington University) Medical Department, Washington, D. C.
13. 1825: Jefferson College Medical Department, Philadelphia (now Jefferson Medical College).
14. 1825: University of Virginia, Department of Medicine, Charlottesville, Va.
15. 1828: Medical Academy (now college) of Georgia, Augusta, Ga.

EPILEPSY AND AMYOTROPHIC LATERAL SCLEROSIS

To the Editor:—Could you furnish me with information as to the occurrence of epilepsy or of epileptiform attacks in association with amyotrophic lateral sclerosis? S. F.

Answer.—Amyotrophic lateral sclerosis, a disease in which the motor nervous system in its totality progressively degenerates, is never seen in association with epilepsy or epileptiform attacks. The reason for this negative finding might be that the degeneration proceeds from the periphery toward the cortical elements too slowly to produce the symptoms of irritation—epileptiform attacks. The fibrillary twitchings seen in the degenerating muscle-fibers in a case of amyotrophic lateral sclerosis may have a superficial resemblance to epileptiform attacks, but the former are more or less constant, involve only a few fibers and never cause a contraction of the muscles in mass, while the latter occur at intervals and affect entire groups of muscles *in toto*. The fibrillary tremor is an expression of weakness in a dying muscle; the epileptic or epileptiform attack rather expresses an overflow of energy in a strong muscle.

While epileptiform attacks are foreign to the symptom-complex of amyotrophic lateral sclerosis, they may occur in the same patient as an independent affection, just as any other disease might develop in one already suffering. It is quite possible that a complicating arteriosclerosis or syphilis may demonstrate its presence by convulsive attacks not distinguishable from epilepsy. Indeed, the entire disease amyotrophic lateral sclerosis, with its atrophy and spasticity, may be simulated by syphilis of the central nervous system, which has also epilepsy as one of its many symptoms. So far as we know, the literature does not furnish any examples of true amyotrophic lateral sclerosis occurring in association with epilepsy or epileptiform attacks.

"NURITO," "MOTHERSILL'S SEASICK REMEDY" AND "MARK WHITE'S GOITER TREATMENT."

To the Editor:—Please give: (1) Analysis of "Nurito," a so-called rheumatism cure; (2) analysis and merits of "Mothersill's Seasick Remedy"; (3) information concerning the Mark White Goiter Treatment. M. N. A., Illinois.

Answer.—1. An analysis of "Nurito" and a discussion of the produce appeared in The Journal, Aug. 10, 1912; see also page 461 in the new edition of "Nostrums and Quackery." Its composition was found to be:

Pyramidon	60 per cent.
Phenolphthalein	6 per cent.
Milk sugar	34 per cent.

2. Mothersill's Seasick Remedy was discussed in The Journal, July 2, 1910, and Jan. 4, 1913, and the matter appears in the new edition of Nostrums and Quackery. Analysis showed the chief constituent to be chlorbutanol (chloretone).

3. The Mark White goiter treatment is put on the market by one Mark White, a "horse doctor" who calls himself "president and general manager" of the Mark White Goiter Treatment Company and "discoverer of Goitreine." Mr. White assures the sufferers from goiter that if they will only buy Goitreine they "may be practically sure of an immediate and permanent cure." White says that his treatment "cannot possibly harm you in any way." Possibly not, but the Denver papers of May 23, 1911, reported a case of collapse and death in a woman following an injection given in White's office. The paper stated that the death certificate, which was signed by a Dr. W. A. Gray, gave "fatty degeneration of the heart and goiter" as the cause of death. Dr. W. A. Gray was the licensed physician employed by Mark White to administer injections and thus "get around" the requirements of the state medical practice act. The Mark White Goiter Institute offers to divide with physicians the money it gets from its victims. To some physicians it offers $10 for every $50 victim, with an additional $5 for every $50 increase; to other physicians it makes a straight 50 per cent. commission offer. Says Mark White:

> "You would be expected to make a cash charge to the patient for the treatment, remitting on the same day our 50 per cent. to us, when ordering the treatment, giving the treatment in no cases for less than $50."

White's opinion of the medical profession must be pretty low, for he wrote to a number of medical societies, asking them to print in their bulletins full-page advertisements of his goiter cure in which he made the proposition of 50 per cent. commission to physicians.

RESPONSIBILITY OF THE PHARMACIST WHEN A PRESCRIPTION CALLS FOR HEAVY DOSAGE

To the Editor:—Please answer the following: If a prescription calling for 4 ounces of veratrum viride, in an 8-ounce mixture—dose 2 teaspoonfuls every two hours—is dispensed as written, by a registered pharmacist, without consulting the physician regarding the heavy dosage, and ill effects follow its use, who is to blame? X. Y. X.

Answer.—The rule with reference to the responsibility of the pharmacist is that he shall exercise due care to avoid mistakes on the part of both himself and the physician. If an evident error is made in a prescription, the pharmacist should not put it up until the error has been corrected. In case of doubt as to the dosage of any ingredient in a prescription, he should consult the prescribing physician to determine whether the amount prescribed is that intended. If the physician sanctions the amount given in the prescription, the druggist is relieved from responsibility, unless the amount given would evidently produce toxic effects. In the case referred to it is not specified what preparation of veratrum viride was prescribed. If it was the tincture, the dose is four times that given by the Pharmacopeia; but it must be remembered that the Pharmacopeia gives the average and not the maximum doses. The amount therefore could be given to some patients if deemed advisable by the physician. If the prescription called for the fluidextract, however, the dose would in all probability be a poisonous one, and should not be put up.

LITERATURE ON JACKSON'S MEMBRANE

To the Editor:—I would greatly appreciate it if you would refer me to some literature on Jackson's membrane—that peculiar formation associated with Lane's kink. D. L. D.

Answer.—The following are references found in The Journal index for the last two years:

Mayo, C. H.: Intestinal Obstruction Due to Kink and Adhesions of the Terminal Ileum, *Surg., Gynec. and Obst.*, March, 1911.
Connell, F. G.: Ileocecal Adhesions (Lane's Kink and Jackson's Membrane), *Surg., Gynec. and Obst.*, November, 1911.
Lejars, F.: Lane's Kink of Ileum and Jackson's Membrane, *Semaine méd.*, Dec. 6, 1911.
Hamburger, S.: Ileus from Lane's Kink, *Hospitalstid.*, Oct. 9, 1912
Kohlmann, W.: Ileocecal Adhesions (Lane's Kink), *Southern Med. Jour*, October, 1912:
Kivlin, C. F.: Lane's Kink of Ileum, *New York Med. Jour.*, Nov 9, 1912.
Chandler, C. E.: Lane's Kink and Jackson's Membrane, *Vermont Med. Month.*, February, 1913.
Connell, F. G.: Etiology of Lane's Kink, Jackson's Membrane and Cecum Mobile, *Surg, Gynec. and Obst.*, April, 1913.
Eastman, J. R.: The Fetal Peritoneal Folds of Jonnesco, Treves and Reid and Their Probable Relationship to Jackson's Membrane and Lane's Kink, *Surg, Gynec. and Obst.*, April, 1913

STIMULATION OF THE DEVELOPMENT OF INFANTILE SEXUAL ORGANS

To the Editor:—Please give information as to the following case: A boy aged 13 was born with complete cryptorchidism. By an operation when he was 5 years old the testicles were brought into the scrotum, but they failed to develop any further. The boy is 5 feet 5 inches in height, and very strong. He has no hair on the pubes, and his sexual organs are of the size of those of a boy of 3 years, one of the testicles being even smaller and very soft.

1. Is there any possibility of stimulating further development of these infantile organs?
2. Where can extracts of testicle be obtained?
3. What do you know of Poehl's spermin?
4. Kindly refer me to literature on this special subject.

F. Neumann, M.D., New York.

Answer.—1. Cases of complete cryptorchidism usually involve a failure of development of the interstitial cells of the testicles, which, it appears, are the effective agents in stimulating the development of the secondary sexual characters. While some remarkable effects are reported as the result of the use of testicular extracts, in other cases failures have been experienced, so that it is very doubtful whether it would be possible to stimulate the development of the secondary characters in the case referred to. It must be remembered, however, that the boy has perhaps not yet entered the period of puberty, so that it is possible that the hope for development will be realized.

2. An extract of testicle is prepared by Armour & Co.

3. Poehl's spermin is a proprietary product said to be made from semen, for which extravagant claims are published. It appears to have received less attention of late than formerly.

4. The following articles may be consulted:

Kyrle, J.: Defective Development of Testicles, *Wien. klin. Wchnschr.*, Nov. 10, 1910; abstr., The Journal, Dec. 17, 1910, p. 2190.

Pappenheimer and Schwartz: Relation of the Interstitial Cells of Testicle to its Internal Secretion, *New York State Jour. Med.*, December, 1910; abstr., The Journal, Jan. 21, 1911, p. 221.

Koch, K.: Interstitial Connective-Tissue Cells in the Testicle and Their Atrophy, *Virchows Arch. f. path. Anat.*, December, 1910.

Hanes, F. M.: Relation of the Interstitial Cells of Leydig to the Production of an Internal Secretion by the Mammalian Testicle, *Jour. Exper. Med.*, March, 1911.

Hanes, F. M., and Rosenbloom, J. A. Histologic and Chemical Study of the Fatty Matter of Normal and Cryptorchidic Testicles, *Jour. Exper. Med.*, March, 1911.

EYE, EAR, NOSE AND THROAT JOURNALS

To the Editor:—Kindly give me the names, addresses and other details of a number of periodicals on the eye, ear, nose and throat.

G. R. Hays, M.D., Richmond, Ind.

Answer.—Following is a list of eye, ear, nose and throat journals, with addresses, frequency of publication, and price:

Annals of Otology, Rhinology and Laryngology. Quarterly; subscription $4 per year. Published by Jones H. Parker, Mermod-Jaccard Building, St. Louis.

Annals of Ophthalmology. Quarterly: subscription $4. Published by Jones H. Parker, Mermod-Jaccard Building. St. Louis, Mo.

Ophthalmic Record. Monthly; subscription $4 a year, single copy, 50 cents. Published by H. A. Fox, 7 West Madison Street, Chicago.

Journal of Ophthalmology and Oto-Laryngology. Monthly · subscription $2 a year. 32 North State Street, Chicago.

Ophthalmology. Quarterly; subscription $5. Published by H. V. Würdemann, 711-714 Cobb Building, Seattle, Wash.

Archives of Ophthalmology. Bimonthly; subscription $5, single copy, $1. Published by G. P. Putnam's Sons, 27 and 29 West Twenty-Third Street, New York.

LIQUID PETROLATUM IN CONSTIPATION

To the Editor:—What is the status of the use of liquid albolene or other petroleum product in the treatment of constipation? Is continued use safe?

Robert E. Graves, M.D., Chicago.

Answer.—"Liquid albolene" is a proprietary name for a hydrocarbon oil corresponding to liquid petrolatum. Liquid petrolatum has been recommended in the treatment of constipation by Schmidt, but so far as we know it has not received much attention. Its action is supposed to be that of a lubricant which facilitates the passage of the feces along the canal. Pure petrolatum is quite insoluble in water, and so far as we know innocuous. It is to be remembered, however, that volatile hydrocarbons have distinctly poisonous properties and therefore such preparations should be free from volatile hydrocarbons and should be used with caution and in moderate doses. In view of the slight experience of the profession with this remedy, it must be regarded as in the experimental stage.

THE COMPOSITION OF ATOPHAN

To the Editor:—Can you give me any information regarding Atophan? I have been unable to find any mention of it in my files of The Journal.

H Crassweller, M.D., Windsor, Ont.

To the Editor:—Please give me the formula or exact ingredients of Atophan, a proprietary medicine recommended and advertised for rheumatism and other diseases. I want this in plain English. I am not smart enough to figure out what carboxylic acid is. The other part I can figure out. Are any of these ingredients injurious to the eyes?

F. M. Halbert, M D., Greenville, Miss.

Answer.—Atophan was described in the New and Nonofficial Remedies department of The Journal, March 2, 1912. It is included in the book: New and Nonofficial Remedies, 1913, p. 46, paper-bound copies of which will be sent on receipt of 25 cents.

Atophan is 2-phenyl-quinolin-4 carboxylic acid. That is, it is the basic substance, quinolin, into which a phenol and a carboxyl group has been introduced. The carbon atoms of the quinolin nucleus are numbered consecutively, the numbers "2" and "4" indicating the carbon atoms to which the groups are attached. The term "carboxyl" is a contraction of "carbonyl" and "hydroxyl," and the group COOH which is characteristic of organic acids, may be considered as a combination of carbonyl and hydroxyl.

We know of no reports indicating that Atophan has any effect on the eyes.

UNILATERAL ABSENCE OF PERSPIRATION

To the Editor:—Please inform me what condition could produce a disappearance of sweat on one side of the body and what measure should be employed to cure it.

R. Carulla, M.D., Santiago, Cuba.

Answer.—Perspiration is principally controlled by a bilateral center in the medulla oblongata. It is believed that there are also sudorific centers in the cortex and in the spinal cord. Disorders of secretion may occur in diseases of the brain, spinal cord, peripheral nerves and the sympathetic. We do not know what causes hyperhidrosis or anhidrosis. A hemihyperhidrosis unilateralis, that is, a perspiration on one side of the face or body only, occurs occasionally in normal persons, especially after the ingestion of mustard, pickles, etc.; and in diseases of the sympathetic, hemicrania, exophthalmic goiter, erythromelalgia, tabes dorsalis, gliosis and other nervous diseases. It is an isolated phenomenon of psychic degeneration and may result from an acute infectious fever. Naturally the treatment must be that of the underlying causes. Local application of astringents may be made, such as a solution of alum from 1 to 5 per cent., or a solution of formaldehyd, from 1 to 5 per cent.

HOW TO GIVE CASTOR OIL

To the Editor:—In The Journal (April 12, 1913, p. 1174), you give different methods of administering that old and much-maligned remedy, castor oil. For many years I have given it on ice-water. In this way you can give it to any one in the dark and the patient will be none the wiser until later. If the oil is poured into a small glass of ice-water the oil will form a globule on top of the water and will go down like a raw oyster. If any taste is left, a pinch of salt will remove it. The method is applicable to any oil, and has the advantage that often when a palatable drink is used, a distaste for that drink remains; but water is always good when one is thirsty.

George F. Beasley, M.D., La Fayette, Ind.

IS THE RIGHT EYE BLIND IN RABIES?

To the Editor:—I was interested in the article on rabies by Dr. Wesson (The Journal, April 5, 1913, p. 1069), and since he mentions paralysis of the left side I would like to know if blindness of the right eye exists. I have heard it said from experience that if one turns out to the left when meeting a running mad dog, he will not bite.

A. L., Kansas.

Medical Economics

This Department Embodies the Subjects of Postgraduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

THE NEW OWEN BILL

On April 7, Senator Robert L. Owen introduced Senate Bill No. 1, a revised bill providing for a National Department of Health. The new bill follows the general plan of the last Owen bill, but goes back to the original plan for a department, rather than a bureau of health. The text, in full, follows:

A BILL TO ESTABLISH A DEPARTMENT OF HEALTH, AND FOR OTHER PURPOSES

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

That there be at the seat of government an executive department known as the Department of Health, and a Secretary of Health, who shall be the head thereof; and the provisions of title four of the Revised Statutes, including all amendments thereto, are hereby made applicable to said department. The Secretary of Health shall be appointed by the President, by and with the advice and consent of the Senate, at a salary of $— and with tenure of office like that of the heads of the other executive departments. And said Secretary shall cause a seal to be made for the Department of Health, of such device as the President approves, and judicial notice shall be taken of said seal.

Sec. 2. That there be in the Department of Health an assistant to the Secretary of Health, designated and known as the Commissioner of Health, who shall be a skilled sanitarian, appointed by the President, by and with the advice and consent of the Senate, who shall serve at the pleasure of the President, and who shall receive a salary of $— per annum. The Commissioner of Health shall perform such duties as are required by law and such as are prescribed by the Secretary of Health. There shall be also a chief clerk, a disbursing clerk, and such other employees as Congress may from time to time authorize. The auditor for the state and other departments shall receive and examine all accounts of moneys paid in and of moneys expended on account of the Department of Health, and shall certify the balance arising thereon to the division of bookkeeping and warrants of the Treasury Department, and forthwith send a copy of each such certificate to the Secretary of Health.

SEC. 3. That it be the province and duty of the Department of Health to foster and promote all matters pertaining to the conservation and improvement of the public health and to collect and disseminate information relating thereto: *Provided*, That this act shall not be construed as attempting to authorize the Department of Health to exercise or attempt to exercise, without express invitation from the chief executive or other proper authority of the state, any function belonging exclusively to such state, or to enter any premises in any state without the consent of the owner or occupant thereof; but the Secretary of Health, on request of the chief executive or other proper authority of any state, territory, the District of Columbia, or any insular possession, may detail for limited periods an officer or officers, employee or employees, from the Department of Health to assist the health authorities of such state, territory, district, or insular possession in protecting and promoting the health of the people of such jurisdiction.

SEC. 4. That to the Department of Health are hereby transferred the following bureaus, divisions, and other branches of the government, and all that pertains to them, and they and each of them shall remain under the supervision and direction of the Secretary of Health until otherwise directed by law, namely:

(a) From the Department of the Treasury is transferred the Public Health Service.

(b) From the Department of Agriculture is transferred that part of the Bureau of Chemistry charged with the investigation of the adulteration of foods, drugs, and liquors, and with the execution and enforcement of the Act of Congress entitled "An act for preventing the manufacture, sale, or transportation of adulterated or misbranded or poisonous or deleterious foods, drugs, medicines, and liquors, and for regulating traffic therein, and for other purposes," approved June 30, 1906.

(c) From the Department of Commerce and Labor is transferred the Division of Vital Statistics, Bureau of the Census.

And the President is hereby authorized to transfer to the Department of Health at any time either the whole or any part, as to him may seem best, of any bureau, division, or other branch of the government engaged in work pertaining to the public health, except the Medical Department of the Army and the Bureau of Medicine and Surgery of the Navy.

And each and every function, authority, power, duty, and jurisdiction, of whatsoever character it may be, vested at the time of any transfer aforesaid in the head of the executive department from which said bureau, division, or other branch of the government is transferred, shall, to the extent to which such function, authority, power, duty, or jurisdiction pertains to such bureau division, or other branch of the government immediately on such transfer become vested and thereafter remain vested in the Secretary of Health.

All land, buildings furniture, apparatus, equipment, and property of whatsoever description, and all official records and papers, in the custody of any executive department from which any bureau, division, or other branch of the government is transferred as aforesaid and pertaining to the business of such transferred bureau, division, or other branch of the government, shall at the time of such transfer, or as soon thereafter as practicable, and in so far as such action can be taken without hindering the work of the executive department from which such transfer is made, be given over into the custody of the Department of Health. And all unexpended balances of appropriations available at the time of such transfer for the use of any such transferred bureau, division, or other branch of the government, or which may become available thereafter, shall be and remain available, in similar manner and to the same extent as if no transfer had been made.

SEC. 5. That within the Department of Health there shall be the following bureaus:

(a) Bureau of Sanitary Research; (b) Bureau of Child Hygiene; (c) Bureau of Vital Statistics and Publications; (d) Bureau of Foods and Drugs; (e) Bureau of Quarantine; (f) Bureau of Sanitary Engineering; (g) Bureau of Government Hospitals; (h) Bureau of Personnel and Accounts. And the Secretary of Health is hereby authorized to arrange and rearrange from time to time, with the approval of the President, the functions, duties, personnel, papers, records, and property, and the work, resources, and equipment generally, coming into the jurisdiction and control of the Department of Health by the operation of this act, so as most efficiently and economically to organize and maintain the several bureaus herein named and such divisions and offices thereof as to said secretary seems proper; but in arranging and rearranging the personnel, the rank, pay, and allowances of the officers of the Public Health Service commissioned at the time of the transfer of that service to the Department of Health shall not, by reason of anything in this act contained, be diminished. And the Secretary of Health may call on the heads of other executive departments for information in their possession whenever such information is needed for the efficient and economical working of the Department of Health.

SEC. 6. That the President is hereby authorized to detail officers and employees from any of the several executive departments of the government for duty under the Secretary of Health when so requested by said secretary, and to detail officers and employees in the service of the Department of Health to any of the other executive departments on request of the head of such department, provided such detail can be made without prejudice to the public service, to carry into effect the purpose and intent of this act; but officers and employees so detailed shall receive no additional compensation, but shall be paid such actual and necessary expenses as they incur in the discharge of their duties.

SEC. 7. That the Secretary of Health may, in his discretion and with the approval of the President, appoint an advisory board of not more than seven members, to confer with him on his request, from time to time as he deems necessary, concerning the work of the Department of Health and the health of the people. The members of said board shall be selected because of their special knowledge of matters relating to the public health, and each shall hold office for a term of seven years or until his successor is appointed, except that the appointments first made, and appointments thereafter made to fill unexpired terms and terms of members who have held over beyond the periods of their original appointments, shall be made so that not more than one member shall retire during any one fiscal year. No member of any such advisory board shall receive any compensation for his services, but each shall be paid all actual expenses necessarily incurred in the discharge of his duties. And from and after the passage of this act the advisory board for the Hygienic Laboratory created by section 5 of an act entitled "An act to increase the efficiency and change the name of the United States Marine-Hospital Service," approved July 1, 1902, be, and the same hereby is, abolished

SEC. 8. That the Secretary of Health may, whenever in his judgment public interests would be promoted by so doing, invite the duly constituted health authorities of all or of any of the states, territories, the District of Columbia, and insular possessions as to him may seem advisable, each to send one delegate to confer with him or his duly appointed representative or representatives and with each other, at such time and place as he may designate, concerning any particular matter or matters relating to the public health; and it shall be the duty of the Secretary of Health, on the written application of the duly constituted health authorities of not less than five states, territories, the District of Columbia, or insular possessions, stating the particular matter or matters which it is desired to consider, to appoint a time and place, and to call a conference of the health authorities of the states, territories, the District of Columbia, and insular possessions that united in the request therefor, and personally or through his duly appointed representative or representatives to be present at such conference; but every state, territory, the District of Columbia, and insular possession shall be notified of every conference, and if practicable be afforded an opportunity of being present and participating in its proceedings. And from and after the passage of this act annual and other conferences of state and territorial boards of health, quarantine authorities, and state health officers, provided for by section 7 of an act entitled "An act to increase the efficiency and change the name of the United States Marine-Hospital Service," approved July 1, 1902, be, and the same are hereby, abolished.

SEC. 9. That, except as expressly provided in this act, nothing herein contained shall be construed as limiting or abrogating any function, right, or duty imposed by law on any existing bureau, division, or other branch of the government; but such bureaus, divisions, and other branches of the government as are by this act or by authority thereof transferred to the Department of Health shall continue, under direction of the Secretary of Health, to have such functions, duties, and rights as they have at the time of such transfer; and in the case of such bureaus, divisions, and other agencies of the government as are transferred in part only, the part not transferred shall continue to have and to exercise all such functions, duties, and rights, except such as specifically relate to the part transferred to the Department of Health, in the same manner and to the same extent as if no such transfer had been made.

SEC. 10. That the Secretary of Health shall annually submit to Congress a report in writing showing the operations of the Department of Health during the last preceding fiscal year, which report shall give an account of all moneys received and all moneys disbursed on account of such operations. He shall make such other reports from time to time as may be required by the President, or by either house of Congress, and such as are in his judgment necessary or expedient.

SEC. 11. That $—— be, and the same are hereby, appropriated to carry into effect the provisions of this act, out of any money in the Treasury not otherwise appropriated.

SEC. 12. That all acts and parts of acts contrary to the provisions of this act or inconsistent therewith be, and the same are hereby, repealed.

SEC. 13. That this act shall take effect on and after July 1, 1914.

TARIFF ON INSTRUMENTS

The Jefferson County (Ky.) Medical Society recently passed the following resolutions:

WHEREAS, The President of the United States has called Congress into special session, the chief end in view being a revision of the tariff downward; and

WHEREAS, There exists on finished surgical instruments imported into this country a duty of 50 per cent.; instruments in the rough are admitted with a duty of 15 per cent., while scientific instruments and apparatus for teaching are admitted free; and

WHEREAS, This condition puts an unnecessary tax on all physicians in the purchase of their instruments, either domestic or foreign, which is both unjust and unnecessary; be it

Resolved, That we, the members of the Jefferson County Medical Society, respectfully petition the Congress of the United States now in session assembled, through our representative Honorable Swager Sherley, to remedy this condition through a bill introduced by Mr. Sherley taking the duty off of the aforesaid articles; since we feel that if instruments used only for teaching are admitted duty free it is all the more essential that instruments used in the practice of surgery for the purpose of saving human life and alleviating human suffering should be accorded like privilege; and, be it further

Resolved, That a copy of these resolutions be sent to our representative, respectfully asking that he at once adopt measures toward the desired end, that another copy of these resolutions be sent to the Americal Medical Association with the request that the above resolution be given wide-spread publicity in the pages of THE JOURNAL with the request that all the doctors in the United States, through their county societies, join with the Jefferson County Medical Society in requesting their representatives in Congress to endorse the above mentioned legislation.

DUNNING S. WILSON, *President*.
A. C. L. PERCEFULL, Secretary.

700 Atherton Building, Louisville, Ky.

Medical Inspection of Schools.—Medical inspection ought to emphasize in a decided way the especial significance of hygienic conditions in schools. It seems more than foolish to shut up our well children in unventilated and improperly lighted schoolrooms; furnish them no playgrounds, compel them to live a life not in accord with the laws of physical development, and then when they become anemic, near-sighted, and defective make a great stir about special classes for defectives and spend in building special schools money better spent in keeping children well. We must learn that it is far more important to furnish conditions which promote the health and development of well children than it is to make special efforts to care for those who are sick or defective, especially where these defects have been largely induced through neglect.—*Public Health*, Michigan.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ARKANSAS: Regular, Little Rock, May 13-14. Sec., Dr. F. T. Murphy, Brinkley; Eclectic, Little Rock, May 13. Sec., Dr. C. E. Laws, Fort Smith.

FLORIDA: Jacksonville, May 12-13. Sec., Dr. J. D. Fernandez.

GEORGIA: Regular, State Capitol, Atlanta, May 8-10. Sec., Dr. C. T. Nolan, Marietta; Homeopathic, Atlanta, May 8. Sec., Dr. R. E. Hinman, 106½ Whitehall Street.

ILLINOIS: Armory Battery B, Chicago, April 29-May 1. Acting Secretary, Amos Sawyer, Springfield.

LOUISIANA: Homeopathic, 702 Macheca Bldg., New Orleans, May 5. Sec., Dr. Edward Harper.

MASSACHUSETTS: State House, Boston. May 13-15. Sec., Dr. Walter P. Bowers, Room 159, State House.

MICHIGAN: Y. M. C. A. Bldg., Detroit, May 22-24. Sec., Dr. B. D. Harison, 504 Washington Arcade.

NEBRASKA: Lincoln, May 28-29. Sec., Dr. C. P. Fall, Beatrice.

NEVADA: Carson City, May 5. Sec., Dr. S. L. Lee.

Connecticut Homeopathic March Report

Dr. Edwin C. M. Hall, secretary of the Connecticut Homeopathic Medical Examining Board, reports the written examination held at New Haven, March 11, 1913. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. Only one candidate, a graduate of the Hahnemann Medical College and Hospital of Philadelphia, 1892, was examined and he passed with a grade of 76 per cent.

Montana April Report

Dr. William C. Riddell, secretary of the Montana State Board of Medical Examiners, reports the written examination held at Helena, Mont., April 1-3, 1913. The number of subjects examined in was 10; total number of questions asked, 50; percentage required to pass, 75. The total number of candidates examined was 27, of whom 22 passed and 5 failed. The following colleges were represented:

PASSED College	Year Grad.	Total No. Examined
Northwestern University Medical School, (1906) (1908)	(1911,2)	4
College of Physicians and Surgeons, Chicago (1898)	(1903,2)	3
Hahnemann Medical College and Hospital, Chicago	(1896)	1
Dunham Medical College, Chicago	(1898)	1
Drake University, Des Moines	(1911)	1
Michigan College of Medicine and Surgery	(1901)	1
University of Minnesota, School of Medicine	(1899)	1
Washington University, St. Louis	(1904)	1
Creighton Medical College	(1911)	1
New York Homeopathic Medical College and Hospital	(1910)	1
Medical College of Ohio	(1907)	1
Hahnemann Medical College and Hospital, Philadelphia	(1907)	1
Vanderbilt University	(1912)	1
Milwaukee Medical College	(1903)	1
Laval University, Quebec	(1904)	1
University of Toronto, School of Medicine (1904)	(1906)	2

FAILED College	Year Grad.	Per Cent.
Georgetown University	(1903)	67.1
College of Physicians and Surgeons, Chicago	(1910)	69.4
Keokuk Medical College, Coll. of Phys. and Surg.,	(1908)	61.5
Milwaukee Medical College	(1910)	68.3
Wisconsin College of Physicians and Surgeons	(1905)	65.4

Rhode Island April Report

Dr. Gardner T. Swarts, secretary of the Rhode Island State Board of Health, reports the written examination held at Providence, April 3, 1913. The total number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 80. The total number of candidates examined was 5, all of whom passed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
College of Physicians and Surgeons, Baltimore	(1912)	88
Harvard Medical School	(1908) 86.8; (1910)	83.7
Cornell University Medical College	(1908)	80.8
University of Vermont	(1911)	81.8

Book Notices

The Qualitative Analysis of Medicinal Preparations. By H. C. Fuller, B.S., Chief Analyst, Institute of Industrial Research, Washington. Cloth. Price, $1.50 net. Pp. 132. New York: John Wiley & Sons, 1912.

The great diversity in the nature of medicinal substances renders it impossible to devise any routine scheme of analysis for medicines which is both brief and practical. This is particularly the case in a volume of this size. Then, too, the analysis of medicines is such a complex subject and one that requires so much patience and skill acquired from experience that no manual of directions, however complete, can make a competent analyst from an amateur. This work, however, makes no claim to attempt the impossible. The author's analytical scheme resembles the earlier methods of Dragendorff and Parsons for plant analysis, in that an endeavor is made to separate the organic medicines into groups by successive treatments with various solvents in acid and alkaline mediums. After the group separations are made the individual substances are identified by appropriate tests compiled from the literature. The book should prove useful as a time-saver in making cursory examinations of remedies, and will doubtless be found valuable in teaching short courses in drug analysis.

Anleitung zur Funktionsprüfung des Ohres (Prüfung des Gehör- und Gleichgewichtsapparates). Für die Praxis dargestellt. Von Dr. A. Sonntag und Dr. H. J. Wolff. Mit einem Vorwort von Prof. Dr. G. Brühl. Paper. Price, 2.50 marks. Pp. 69. Berlin: S Karger, 1912.

This is a treatise on the methods of testing the organ of hearing, including its functions of hearing and equilibration. In addition, sufficient attention is given to the physiology to render plain the results of comparatively recent investigations which make possible some new and important tests. The hearing tests are classified into those which test the condition of the sound-conduction apparatus and those testing the condition of the sound-perceiving apparatus. The methods of using speech, noises and tones as hearing tests are given in detail and the value of each is indicated. The particular value of this work is in the discussion of the physiology of the vestibular apparatus and the methods of testing the function of these end-organs. The subject of nystagmus is carefully considered, dealing with both spontaneous and experimental nystagmus. The methods of using caloric, pressure, galvanic and turning tests are fully and lucidly explained, and finally a diagnostic table summarizes the symptoms of labyrinthitis..

A Method of Measuring the Development of the Intelligence of Young Children. *By Alfred Binet and T. Simon.* Authorized Translation With Preface and an Appendix Containing an Arrangement of the Tests in Age and Diagnostic Groups for *Convenience in Conducting Examinations. By Clara Harrison* Town, Ph.D., Director of the Department of Clinical Psychology, Lincoln State School and Colony, Lincoln, Ill. Paper. Price, $1. Pp 83. *Lincoln, Ill.: The Courier Company*, 1912.

Interest in the study of the backward child has called attention to the mental tests devised by Binet and Simon for the grading of such children, which seems to be the most practical of any of the few methods devised for this purpose. The translator in this little pamphlet has presented the method of Binet and Simon in a compact and practical form which should prove convenient for those interested in this work.

Papers on Psycho-Analysis. By Ernest Jones, M.D., M.R.C.P., Associate Professor of Psychiatry, University of Toronto. Cloth. Price, $4 net. Pp. 432. New York: William Wood & Co., 1913.

English readers wishing to gain an insight into the theory and practice of psychanalysis as promulgated by Sigmund Freud will find this series of papers extremely helpful and interesting. The author has long been known as an ardent admirer and faithful disciple of Freud; in fact, he may be said to be even more Freudian than Freud himself. The papers have all been published in journals, but their reproduction in one volume will be welcomed by many. The author's style is facile, and he writes with the power of conviction.

Medicolegal

Validity of State Law Prohibiting Shipment of Immature Citrus Fruits

(Sligh vs. Kirkwood, Sheriff (Fla.), 61 So. R. 185)

The Supreme Court of Florida affirms a judgment refusing to release the plaintiff in error on habeas corpus proceedings after his arrest on warrants issued from informations charging him with violations of the Florida act of 1911, making it unlawful for anyone to sell, offer for sale, ship or deliver for shipment any citrus fruits which are immature or otherwise unfit for consumption, and for anyone to receive any such fruits under a contract of sale, or for the purpose of sale, or of offering for sale, or for shipment or delivery for shipment, etc. The court holds the statute constitutional. It says that it does not think that the statute conflicts with the interstate commerce clause of the federal constitution or with any of the provisions of acts of congress passed in pursuance thereof that have come to the court's attention. The court does not think the statute a direct interference with interstate commerce or a burden on or prohibition against the legitimate subjects of such commerce. It does incidentally affect such commerce by prohibiting immature citrus fruits produced within her borders from becoming the subjects of shipment or sale, and this in obedience to the police duty and power to protect the public health. Except thus incidentally, the court does not think that the act is an unwarranted interference with or burden on interstate commerce. Nor does the statute in any wise conflict with the Food and Drugs Act of Congress of June 30, 1906. By the sixth subdivision of section 7 of the last-named act, the prohibitions against vegetable substances, which, as the court interprets it, would include citrus fruit, is that if it is in whole or in part filthy, decomposed or putrid, then it is debarred as a subject of commerce. Green or immature fruit may be as deleterious to health as the same fruit in an overripe or decomposed state. The act of congress debars the latter, but says nothing as to the former, thus leaving the field of deleterious immaturity of fruit open to be dealt with by the states. It is not enough to render the state law invalid that it is similar to the federal act on the same subject. Where both the acts of congress and of the state make a defined act an offense, the commission of the act may be an offense against each, and punishable by each.

Liability to Occupation Tax After Exemption

(State ex rel. Wilson vs. City of Pensacola (Fla.), 61 So. R. 193)

The Supreme Court of Florida affirms a judgment in favor of the city in this action, brought by the state attorney for the first judicial circuit to test the power of the city to impose a revenue license tax on the physicians and surgeons practicing their profession within the corporate limits of the city. The court holds that the city of Pensacola may impose an occupation tax on physicians and surgeons practicing their professions within that municipality. And, more generally, it holds that an act exempting physicians and surgeons from an occupation tax may be repealed by a subsequent legislature in a general license law. The failure of the legislature to tax, for state purposes, an occupation exempted by a previous legislature from taxation does not prohibit taxation by municipalities, authorized by the later act to tax for municipal purposes all occupations not mentioned therein.

The court says that the legislature of Florida in 1905 passed an act exempting regular practicing physicians and surgeons from the payment of any license tax. In 1907 a general law was passed imposing licenses and other taxes, which law mentions numerous businesses, professions, or occupations, but does not mention physicians and surgeons. In 1909 the legislature passed an act supplementary to the then existing Pensacola charter, and extending its powers, but which did not limit or cut down the power to impose the tax authorized under the general act of 1907. The state must be given a liberal range in reaching out after the means for its maintenance; and exemptions, not amounting to a vested right, are not lightly to be treated as fixed and irrevocable. The exempting act had not become a fixed policy of this government; in fact, it barely became a law, not having received the active assent of the governor, who permitted it to become a law without his signature; and to receive the legislative assent apparently required a concession, in that its effectiveness was postponed beyond the usual time. At the next session of the legislature, while it did not impose for state purposes a license tax on physicians and surgeons, as it did do in 1903, it remitted, by express directions to counties and incorporated cities and towns, the power to impose a license tax on any profession not mentioned in the act. The condition before the court was that the legislature, having exempted the profession of physicians and surgeons in 1905, failed or refused in 1907 to continue that exemption, when conferring on municipalities the power to tax; and to this extent the general repealing clause, if needed for the construction of that act, repealed the former exemption enjoyed for a brief period by that honored profession. The title to the general act of 1907 put the world on notice that the legislature was dealing with the subject of occupation taxes; and it was wholly unnecessary to place therein the cognate subsidiary matter, properly connected therewith, that the act might affect previous exemptions.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Diseases of Children, Chicago

April, V, No. 4, pp. 285-343

1. Study of Merorachisis (Spina Bifida Occulta). B. Joseph, Burlington, Vt.
2 *Protein Milk as Corrective of Digestive Disturbances. H. B. Wilcox and M. C. Hill, New York.
3 *Protein Metabolism in Infants Fed on Protein Milk. B. R. Hoobler, New York.
4 Complement Fixation Test in Management of Gonococcus Vulvovaginitis. G. G. Smith, Boston.
5 Diphtheria Septicemia, Report of Case. E. Morgan, New York.

2. Protein Milk for Digestive Disturbances.—Summarized, the authors' points are:

> Protein milk is essentially a therapeutic agent. It is not suitable for use as a continued diet. It is suitable for use at all ages, but better adapted to children over 3 months. It is indicated in gastric or intestinal indigestions, acute infections or chronic incapacities, fermentations or putrefactions. It is of the greatest therapeutic efficiency when made from skim-milk. It is best used without preliminary starvation or purgation. It may be used in combination with any plain milk mixture. Children may be abruptly changed from it to plain milk formulas without danger. It should be partially withdrawn with the first signs of digestive improvement. It should be replaced by suitable milk formulas as fast as the patient's tolerance will admit. Fresh milk and breast milk, when taken badly alone, are often well borne if combined with protein milk. Caloric values of the food may be more rapidly increased when some protein milk is given. Protein milk is especially indicated in acute intestinal infections.

3. Protein Metabolism in Infants Fed on Protein Milk.—Hoobler states that the clinical advantages of protein milk as a corrective for diarrheal conditions in infants are confirmed by the following metabolic findings: The protein intake is not increased sufficiently to be a detriment to the child, but on the other hand. frequently supplies only a sufficient amount to make up for the previous protein depletion. When kept on this high protein intake for but a short period, the specific dynamic action of protein may be disregarded. Even though the food be low in caloric value, and while there may be loss of weight, there is nevertheless sufficient protein retained to prevent waste of muscle-tissue and provide for growth. The changes in the stools accompanying protein milk feeding are due to a decrease in the total acidity in the stool, the volatile acids, the fatty acids, an increase in the formation of soaps, a decrease in the amount of water lost through feces and a better retention of the mineral salts. All of the above factors tend to produce fewer stools through lessened irritability and formed stools through the reduction of water and the formation of soaps. These chemical results may all occur within the space of three or four days, and confirm the clinical observation that in many cases protein milk may be discontinued at the end of a very short period, thus using it as a corrective for diarrheal conditions only and not as a true food.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

April, LXVII, No. 424, pp. 649-848

6 *Influence of Ovary as Organ of Internal Secretion. W. P. Graves, Boston.
7 Intestinal Obstruction. A. B. McConnell, San Francisco.
8 Extra-Uterine Pregnancy: Operation Three Months After Term; Recovery. W. S. Smith, Baltimore.
9 Pros and Cons of Specialism. D. C. Moriarta, Saratoga Springs, N. Y.
10 Alpha and Omega of Digestive Tract in New-Born Child. D. H. Stewart, New York.
11 Hysterectomy for Cure of Prolapse of Uterus. W. A. B. Sellman, Baltimore.
12 Properitoneal Hernia. W. C. G. Kirchner, St. Louis.
13 Tuberculosis in Its Relation to Pregnancy, Labor and Puerperium. R. W. Lobenstine, New York.
14 Delivery by Breech, with Special Reference to Technic. A. J. Skeel, Cleveland.
15 Surgery of Liver and Bile Tract. J. G. Sherill, Louisville, Ky.
16 Nephrectomy for Polycystic Condition of Kidney. G. Torrance, Birmingham, Ala.
17 Toxemias of Pregnancy. H. E. Tuley, Louisville, Ky.
18 Preservation and Repair of Female Perineum. S. J. Goodman, Columbus, O.
19 Function of Thymus. A. E. Lampé, Halle, Germany.

6. Influence of Ovary as Organ.—The present status of our knowledge concerning the physiology of the ovary, Graves says, justifies the following conclusions:

> 1. Anatomic evidence makes it probable but not incontestable that the ovary is an organ of internal secretion. 2. Infantilism is not a result of ovarian deficiency but is a local or general manifestation of a hypoplastic constitution in which the ovary may or may not share incidentally. 3. After sexual maturity the ovary exercises a trophic influence over the other internal and external genital organs. 4. There is evidence to show that the ovaries preside over menstruation by an internal secretion which has a selective action on the endometrium; and that abnormal uterine bleeding may be due to a hypersecretion of the ovaries. This evidence is not incontestable. 5. Transplantation of ovarian tissue has not as yet proved to be of great practical value in the surgical treatment of gynecologic patients. 6. Castration of sexually mature women directly causes vasomotor symptoms typified by hot flashes in 80 per cent. of cases. 7. Definite psychoneuroses are not directly caused by castration, but such symptoms if present are due to other causes that produce physical or mental pain or discomfort. 8. Ovarian extract *is invaluable in the treatment of the* vasomotor disturbances following castration. Its value in the treatment of other gynecologic conditions is problematic.

Annals of Surgery, Philadelphia

April, LVII, No. 4, pp. 449-592

20 *Congenital Internal Hydrocephalus. I. S. Haynes, New York.
21 *Effect of Removal of Hypophysis Cerebri in Dog. J. E. Sweet and A. R. Allen, Philadelphia.
22 Consecutive Displacement of Cerebral Hemisphere in Localization and Removal of Intracerebral Tumors and Hemorrhages (Apoplectic Hemorrhages and Clots). W. H. Hudson, Atlanta, Ga.
23 *Coexisting Infection and Sarcoma of Thyroid. M. F. Porter, Fort Wayne, Ind.
24 *Experimental Devascularization of Intestine with and without Mechanical Obstruction. J. S. Horsley and C. C. Coleman, Richmond, Va.
25 *Surgery of Single and Horseshoe Kidney. C. H. Mayo, Rochester, Minn.
26 *Embryogenetic Relationships of Tumors of Kidney, Suprarenal and Testicle. L. B. Wilson, Rochester, Minn.
27 Excision and Suture in Treatment of Dense, Close, Urethral Strictures. C. G. Cumston, Boston.
28 *Operative Fixation as Cause of Delay in Union of Fractures J. B. Roberts, Philadelphia.
29 *Treatment of Volkmann's Contracture. E. G. Alexander, Philadelphia.
30 Infections of Hand. L. W. Hoon and G. J. Ross, Philadelphia.

20. Congenital Internal Hydrocephalus.—The correctness of the principle of this operation (also published in the *Archives of Pediatrics* and abstracted in The Journal, March 22, p. 940), is again emphasized by Haynes. He reports two cases in which the procedure was employed unsuccessfully, but both cases, he believes, show that his theory is correct.

21. Removal of Hypophysis.—In summing up their experience with twenty-two dogs, the authors state that it is evident that the hypophysis is not essential *to life; there* are undoubtedly three well-marked changes which follow hypophysectomy;

the first change concerns the pancreas. They have not worked very extensively with the question of sugar tolerance, and therefore have nothing to say on that point. The second change is the atrophy of the testicles, which is of very early appearance, being extremely marked by the end of the second week after operation. Whether or not this atrophy can be compensated for by the function of some part left behind or of some glandular rests which have been described by Cushing in the floor of the sella turcica, the authors are unable to say. Increase in weight is of late appearance, and whether it be due to the loss of the hypophysis primarily or due to the secondary atrophy of the testicle is not at all clear in their minds.

Their results agree with the most recent work on the subject reported by Aschner, except perhaps in two particulars. He worked almost exclusively with young animals, and inclines to the belief that the removal of the hypophysis from the adult dog is without effect. In the second place he ascribes the atrophy of the testicles to injury of the tuber cinereum. This point of view seems to Sweet and Allen a purely academic one. There can be no agreement as to where tuber cinereum ends and infundibulum begins. They have found no evidence whatever in their work which would incline them to agree with Aschner in this particular.

23. Abstracted in THE JOURNAL, January 25, p. 316.

24. **Devascularization of Intestine.**—The authors add two experiments to ten previously reported in THE JOURNAL, Aug. 24, 1912, p. 597.

25 and 26. Abstracted in THE JOURNAL, January 18, pp. 236 and 237.

28. **Delay in Union of Fractures.**—Roberts reports a case of apparent interference with union by operative fixation with a metal plate to maintain coaptation of the fragments after a difficult reduction. He has also gone over the recently expressed opinions of surgeons doing this kind of work. He pleads for caution against the enthusiastic adoption of this method of treatment as a routine means of dealing with closed fractures. The profession and the public should know that while it is a necessity in some cases and its adoption a question of judgment in other cases, there are many instances of subcutaneous or closed fracture in which it is not needed. Good results can often be obtained, both as to anatomic restoration of the parts, good function and rapid cure, by external dressings guided by a thoughtful, careful surgeon, who has a mechanical mind and anatomic knowledge. The operative treatment is particularly dangerous when adopted by novices in aseptic surgery, or in places where complete aseptic surroundings cannot be obtained.

29. **Treatment of Volkmann's Contracture.**—Alexander reports two patients who were treated by mechanical means, electricity and massage. One case was of short duration, the other had existed for several months. The first patient was treated on a splint, electricity and massage were given every other day, and the splint gradually extended. At the end of twelve weeks the patient was discharged from the hospital cured, with good supination and pronation of the forearm, flexion and extension of the wrist and fingers. The second patient, treated like the first, in about three months' time was able to flex and extend the fingers and wrist. Although he has good wrist and finger motion, he still shows atrophy of the muscles of the forearm and hand. Sensation in the hand is apparently normal. The only difficulty encountered in the treatment of these two patients was superficial pressure ulceration of the finger tips. This difficulty was overcome by placing pads under the finger tips and "making haste slowly" with the extension.

The apparatus used in treating the two patients reported consists of two parts. Part 1 consists of a leather casing encircling the lower half of the forearm. The casing is reinforced on each side (radial and ulnar) by a steel bar. A semicircular bar at the upper end extends around the flexor surface from the radial to the ulnar bar. The casing is buckled on the extensor side of the forearm. Part 2: A plate covered with leather is fitted to the palm of the hand and fingers. Extending from one side of the plate to the other, on the dorsal aspect, is a wide leather strap to hold the fingers straight and in position. Two bars attached in front on either side of the plate pass backward, the one on the radial side arching much more than the ulnar one, to join at the wrist the radial and ulnar bars described in Part 1. The joint formed by the union of these bars is provided with a lever and quick screw. Two long leather straps, attached in front at the junction of the plate and bars, pass backward, crossing on the dorsum of the wrist, and are attached to the radial and ulnar bars, just in front of junction of these bars with the semicircular one. These straps, and also the broad finger strap, are so arranged that they can be adjusted to fit the case. The apparatus can be varied to suit the case. The apparatus is applied with the hand strongly flexed and the fingers extended as much as possible. By turning the screws the plate is elevated and the hand and fingers extended.

Bulletin of Johns Hopkins Hospital, Baltimore

April, XXIV, No. 266, pp. 103-134

31 Tuberculosis of Urinary System in Women. E. H. Richardson, Baltimore.
32 Effect of Chemical Treatment on Baltimore City Water. W. W. Ford and E. M. Watson, Baltimore.
33 Certain Dangers of Adenoidectomy. W. E. Grove, Milwaukee, Wis.
34 *Transplantation of Rib Cartilage Into Pedunculated Skin Flaps: Experimental Study. J. S. Davis, Baltimore.
35 Dengue, Its History, Symptomatology and Epidemiology. C. R. Stitt, Washington, D. C.

34. **Transplantation of Rib Cartilage.**—A flap of the required size with either a broad or narrow base was outlined by Davis and raised from its bed. It was then folded on itself, raw surface to raw surface, so that there was skin on both sides. The edges were held together with several sutures. In this way a sort of pouch was formed and into a selected portion of this pouch the cartilage was placed and secured. The long flaps, with narrow bases, were dressed with gauze moistened with normal salt solution, and each was protected from pressure by a molded wire cage which was secured by a bandage. The short flaps, with broad bases, were in a number of instances exposed to the air without dressings.

The cartilage was obtained from the cartilaginous ribs. The perichondrium was not disturbed except where shaping was done. The cartilage was either imbedded in a thin layer of subcutaneous fat, or was placed in a pocket burrowed in the subcutaneous tissue itself, or was surrounded by the skin after the subcutaneous tissue had been removed. The location of the cartilage varied in the different flaps. In some it was placed parallel to the base of the flap, either in the distal, intermediate or proximal portions. In others, it was placed vertically to the base, and in different parts of the flap. In still others it was placed diagonally across the flap. The shape of the cartilage varied. In some of the experiments it was inserted in its natural shape, and in others it was cut and moulded into the desired form. The flaps when completed were either appendix-shaped, square, or rectangular, some of the latter having a broad and some a narrow base. Pieces of cartilage from 1.5 to 7 centimeters in length were used. The cartilage was allowed to remain in the flaps from seven to 120 days. In two instances where infection occurred the wounds were quickly brought into healthy condition, and the cartilage saved, by the free use of tincture of iodin. In one experiment the cartilage was accidentally contaminated before transplantation, but after being dipped in the iodin solution it was placed in the flap, and *per primam* healing followed.

The appendix-shaped flaps containing cartilage, which were long and had comparatively narrow bases, were the least likely to be completely successful. The broad-based flaps, on the other hand, were nearly always successful throughout. In several instances the cartilage transplanted in the flaps was obtained from other dogs, and these pieces were apparently as well nourished and gave as satisfactory results as those from the same animal. The cartilage should be securely, but loosely, anchored in position. If there was pressure on any particular portion of the cartilage, as for instance by a tightly drawn suture, there was usually slight liquefaction and subsequent fracture of the cartilage at that point. Macroscopic examination showed in every instance that the squarely cut ends of the transplanted cartilage had become slightly rounded. The healing was reactionless and the cartilage did not act as a foreign body.

The measurements of the cartilage when removed from the flap differed very little, if at all, from those taken at the time of transplantation. On section the cartilage appeared normal and seemed well nourished. Microscopic examination showed the transplanted cartilage surrounded by a loose connective tissue zone containing blood-vessels, which were more or less abundant, according to the length of time after transplantation. The cartilage cells appeared normal and there were no signs of degeneration or absorption. This series of experiments show that cartilage with its perichondrium may be transplanted successfully into flaps of the desired shape, with skin on both sides, so long as the blood supply is sufficient to nourish the flaps. The cartilage may also be cut and molded into any required form to support the flap.

Bulletin of Lying-in Hospital of City of New York

March IX, No. 1, pp. 1-65

36 Temporal Bone and Its Anomalies at Birth in 150 Cases. C. A. Freligh, New York.
37 Infant Temporal Bone in Its Relation to Mastoid Operation. H. B. Brown, New York.
38 *Does the Average Midwife Meet Requirements of Patient in Confinement?* G. W. Kosmak, New York.
39 When Is High Forceps Operation Justifiable? J. A. Harrar, New York.
40 Immediate Treatment of Depressed Fractures of Skull in New-Born. G. W. Kosmak, New York.

Boston Medical and Surgical Journal

April 10, CLXVIII, No. 15, pp. 525-560

41 Conduct of Labor Without Vaginal Examinations. C. M. Green, Boston.
42 *Diabetes in Infancy and Childhood. J. L. Morse, Boston.
43 Bilateral Subclavian Aneurysms. H. A. Lothrop, Boston.
44 Follow-Up Work as Element of Effective Treatment in Outpatient Clinic for Eye Diseases. E. Hartshorn and M. M. Davis, Boston.
45 Progress in Diagnosis and Treatment of Intussusception. W. E. Ladd, Boston.

42. **Diabetes in Infancy.**—The literature of this subject is reviewed by Morse and nineteen personal cases are added. There was a history of diabetes in the family of six, or 31 per cent. of these patients. A history of long-continued excessive consumption of sugar was present in six cases. Polyuria was the first symptom noted in five of seventeen patients over 2 years of age. Enuresis was the first symptom noted in four, excessive thirst in three, emaciation in three, quietness in one and disturbance of vision in another. Polyuria was noticed in all. Polydypsia was, however, noted in but thirteen. Emaciation was also noted in thirteen. Only nine were constipated. A large appetite was noted in six, while loss of appetite was noted in three. Enuresis was present in five and irritation and itching of the external genitals in four. Itching of the skin was mentioned in but one case. Three were nervous, two were quiet, one suffered from headaches and one had trouble with vision. About two-thirds of the cases were of the severe type. The duration in twelve patients over 2 years old was six weeks, two months, five months, seven months, seven months, twenty-one months and twenty-eight months, respectively. Three patients are still alive, two months, eleven months, and twenty-eight months, respectively, after the onset of symptoms. All of these have sugar in the urine. The result is not known in the other two.

California State Journal of Medicine, San Francisco

April, XI, No. 4, pp. 135-172

46 Rational Psychotherapy. H. C. McClenahan, San Francisco
47 Psychotherapy in Sexual Neurasthenia. V. Vecki, San Francisco.
48 Psychiatric Duties of Large Cities. R. L. Richards, Burkesville, Ky.
49 Are We Doing as Much for the Tuberculous Patient as We Should? F. M. Pottenger, Monrovia.
50 Interauricular or Interventricular Deficiency of Septum? A Question of Diagnosis. W. W. Kerr, San Francisco.
51 Prospects and Retrospects. A. Barkan, San Francisco.
52 Granuloma Inguinale Tropicum. D. Friedlander, San Francisco.
53 Occipito-Posterior Position. L. I. Breitstein, San Francisco.
54 Present Knowledge of Vermiform Appendix. C. J. Teass, San Francisco.
55 Treatment of Fractures of Patella. R. Brown, Santa Barbara.

Cleveland Medical Journal

March, XII, No. 3, pp. 161-232

56 When Man Had a Hole in His Humerus. F. D. Snyder, Ashtabula, Ohio.
57 *Effects of Aortic Compression on Circulation. T. Sollmann and J. D. Pilcher, Cleveland.
58 Radical Treatment of Uterine Fibroids Based on Their Association with Malignancy. R. E. Skeel, Cleveland.
59 Some Common Diseases *Mistaken for Tuberculosis* and Their Consideration. J. C. Placak, Cleveland.
60 Difficulties in Diagnosis of Gall-Stones. F. E. Bunts, Cleveland.
61 *Influence of Lipoids on Hemolysis. J. D. Pilcher, Cleveland.
62 *Clinical Results of Nasal Treatment in Asthma. W. J. Abbott, Cleveland.
63 Organization of Medical Schools. C. F. Thwing, Cleveland.
64 Duodenotomy for Removal of Impacted Sewing-Machine Needle. J. J. Buchanan, Pittsburgh.

57. **Aortic Compression.**—Compression of the aorta and, indeed, any other rise of blood-pressure, was found by Sollmann and Pilcher to produce a moderate constrictor effect; the stimulation being due, presumably, to increased intracranial pressure. While the absolute rise is the same, the percentage rise is inverse. At 50 mm. the percentile rise would be 80 per cent.; at 100 mm. it would be 40 per cent., etc. The degree of vasoconstriction—the clamping of the aorta—is, of course, uniform; hence, the absolute rise is a much better index of vasomotor changes of blood-pressure than is the percentile rise. When the aorta is compressed, the heart is dilated to about the same relative degree in systole and diastole. The excursions remain practically unchanged. The high blood-pressure is maintained for at least twenty minutes, and then falls very slowly, the heart continuing to beat efficiently for several hours. Ordinarily, therefore, the heart is not discoverably injured by the high pressure and resistance. Sometimes, however, presumably because the heart is already weak, the muscles may pass early into sudden and irrecoverable fibrillation.

When the pressure on the aorta is suddenly released, the blood-pressure falls temporarily below the normal level. This fall is generally attributed to vasomotor paralysis, but this view is disproven by the authors' experiments. Their perfusion method shows that the vasomotor center is not depressed in this period; static stimulation still raises the blood-pressure; and the fall of pressure is equally marked with compressions lasting only half a minute, in which a peripheral vasomotor paralysis by anemia is excluded. On the other hand, they have distinct evidence of cardiac changes. During the fall of pressure the systole and diastole are both incomplete; that is to say, the heart neither fills nor empties itself as completely as normally. This inefficiency of the heart cannot be due to an injury of the cardiac muscle; for as they have seen, the heart is able to work against high pressure indefinitely. The explanation is probably to be sought in temporary maladjustments. On the one hand, the tone of the heart muscle has been pitched to the high resistance and cannot instantly change its pitch to a low resistance. On the other hand, a large part of the blood thrown out by the heart is required to fill the depleted arterial system, so that the return flow to the heart must be temporarily impeded. Similar temporary maladjustments must exist in any sudden change of resistance or loss of blood. They do not occur when the changes are produced gradually. The authors therefore emphasize that it would be safer to apply any measures which alter the resistance to the heart gradually.

61. **Lipoids and Hemolysis.**—While working with a number of laking or hemolytic agents Pilcher observed that a number of bland oils increase the hemolytic power of certain substances which are either lipoid solvents (alcohol and ether) or are soluble in oils (chloral hydrate). This holds true whether the blood-corpuscles are first shaken with the oils and are then added to the plain hemolytic agent, or whether plain or "oiled" corpuscles are added to the hemolytic agent saturated with the oils. The increased hemolysis caused by the oils was

not due to free fatty acids, for the oils were neutral or at least very faintly acid to alcohol moistened litmus. The "oiled" blood, on standing, did not lake before the plain blood. Shaken plain blood behaved as unshaken blood. It is suggested that the oils increase the permeability of the lipoid (lecithincholesterin) cell envelope to the laking agents.

Several series of experiments were made, using 50 per cent. alcohol in normal saline as a laking agent. Five c.c. of a 5 per cent. mixture of sheep's corpuscles, both plain and "oiled," were added to 3.7 c.c. of plain alcohol made up to 5 c.c. with normal saline solution. The linseed and olive oil corpuscles were laked within five minutes, the petrolatum in thirty and the plain corpuscles in sixty minutes. With 3.5 c.c. of alcohol, plain and petrolatum corpuscles were laked in about three hours, the cottonseed oil corpuscles in one and one-half hours, while the linseed and olive oil corpuscles were still laked in five minutes. In other experiments, petrolatum corpuscles were laked somewhat more readily than plain. When the alcohol was saturated with the oils it was found that laking occurred more rapidly than with plain alcohol, so that in this series smaller quantities of alcohol were used. Two c.c. of alcohol saturated with linseed and olive oils laked linseed and olive oil corpuscles within one hour, and cottonseed corpuscles somewhat less rapidly; the plain and petrolatum corpuscles were laked overnight. Alcohol saturated with cottonseed oil and petrolatum liquid laked linseed, olive and cottonseed (the latter only partially) corpuscles overnight, but not plain and petrolatum corpuscles; so that linseed and olive oils increase alcohol laking more than cottonseed oil and petrolatum. Linseed oil is soluble in ten parts of absolute alcohol, olive oil sparingly, cottonseed oil and petrolatum very sparingly. This difference in solubility may explain the greater action of the linseed and olive oils, although there was not a great difference between the action of the two and linseed oil is much more soluble in alcohol than is olive oil. In the presence of oils even completely laked mixtures may be cloudy, so that the microscope was employed to determine when the corpuscles were in complete solution.

62. **Nasal Treatment in Asthma.**—Abbott found in all his forty-four cases of bronchial asthma that there was a more or less hypertrophied condition of the mucous membrane over or near the middle turbinate body and in all but two of the cases removal or lessening of the hypertrophied condition caused a disappearance or improvement, in a very short time, of the symptoms of asthma. The treatment used in these cases varied with the variations in the conditions found. Sometimes the ethmoid condition was uncomplicated, so treatment was directed to it alone, while in others it was found that there existed other conditions which seemed to have been the cause of the ethmoiditis. When the ethmoiditis alone existed the treatment varied from local applications of silver nitrate, chromic acid, trichloracetic acid, cauterization with the electric cautery and simple removal of the apparent hypertrophic tissue, to a complete cleaning out of the ethmoid cells.

The results Abbott has been able to get so far are, he says, very interesting. In one case, a woman of 40, asthma had existed for twelve years, and had been constant, with frequent severe attacks. After operation she was clear for two months and the attack was mild. A young lady of 26, who had been asthmatic for twenty-three years, with severe attacks at frequent intervals, was free for three and one-half months when a slight attack laid her up for three days and she had only used drugs during those three days, although before operation she was up every night for months for an hour at least inhaling and taking drugs of different types. A man of 26, with a history of asthma for about eight years, was free ten months after operation, then suffered for five days from asthma after a severe cold and has been free now for four and one-half months and has gained twenty-three pounds in weight. The case that has gone longest with no recurrence is now about two years and two months since treatment.

Delaware State Medical Journal, Wilmington

March, IV, No. 4, pp. 1-26

65 Venereal Diseases vs. Prostitution. C. DeJ. Harbordt, Dover.

Georgia Medical Association Journal, Augusta

April, II, No. 11, pp. 345-376

66 Sanitation in Schools. T. A. Mann, Brunswick.
67 Prevention of Pellagra. H. F. Harris, Atlanta.
68 Sanitation in Home. J. R. McMichael, Quitman.
69 *History of Obstetric Forceps.* A. J. Kilpatrick, Augusta.
70 Treatment of Typhoid. S. T. Revell, Louisville.
71 Cotton Mill and Tuberculosis. J. H. Hammond, Lafayette.

Journal-Lancet, Minneapolis

April 1, XXXIII, No. 7, pp. 191-222

72 Open Treatment of Fractures. E. H. Beckmann, Rochester, Minn.
73 High Blood-Pressure and Arteriosclerosis. W. H. Bodenstab, Bismarck, N. Dak.
74 Male Bladder Changes in Form and Position from Infancy to Old Age. F. R. Wright, Minneapolis.
75 Pelvic Cellulitis. F. Treon, Chamberlain, S. Dak.
76 Present Status and Indication for Abdominal Cesarean Section. H. I. King, Aberdeen, S. Dak.
77 Significance of Pupillary Inequality. J. M. Robinson, Duluth.
78 Chemical Tests for Occult Blood. H. E. Robertson, Minneapolis.

Journal of Biological Chemistry, Baltimore

April, XIV, No. 3, pp. 159-334

79 Tannic-Acid Fermentation. L. Knudson, Ithaca, N. Y.
80 Idem: Effect of Nutrition on Production of Enzyme Tannase. L. Knudson, Ithaca, N. Y.
81 Method of Preparing Ash-Free Casein and Paracasein. L. L. Van Slyke and A. W. Bosworth, Geneva, N. Y.
82 Preparation and Composition of Basic Calcium Caseinate and Paracaseinate. A. W. Bosworth and L. L. Van Slyke, Geneva, N. Y.
83 Preparation and Composition of Unsaturated or Acid Caseinates and Paracaseinates. L. L. Van Slyke and A. W. Bosworth, Geneva, N. Y.
84 Valency of Molecules and Molecular Weights of Casein and Paracasein. L. L. Van Slyke and A. W. Bosworth, Geneva, N. Y.
85 Composition and Properties of Brine-Soluble Compound in Cheese. L. L. Van Slyke and A. W. Bosworth, Geneva, N. Y.
86 Rate of Extraction of Protein (Salmin) from Desiccated Tissue by Aqueous Solvent. T. B. Robertson, San Francisco.
87 *Quantitative Chemical Analysis of Human Bile. J. Rosenbloom, Pittsburgh.
88 Behavior of Some Hydantoin Derivatives in Metabolism. H. B. Lewis, New Haven, Conn.
89 Cerebronic Acid. P. A. Levene and C. J. West, New York.
90 Chemical Differentiation of Central Nervous System: Comparison of Brain of Albino Rat at Birth with That of Fetal Pig. M. L. Koch, Philadelphia.
91 Idem: Comparison of Two Methods of Preserving Nerve Tissue for Subsequent Chemical Examination. W. Koch and M. L. Koch, Philadelphia.
92 *Rapid Clinical Method for Estimation of Urea in Urine. E. K. Marshall, Baltimore.
93 Lipins of Heart Muscle of Ox. J. Rosenbloom, Pittsburgh.
94 Folin's Michrochemical Method for Determination of Urea. J. C. Bock, Boston.
95 Researches on Purins. C. O. Johns and A. G. Hogan, New Haven, Conn.
96 Researches on Pyrimidins: Pyrimidin-Nucleosides. T. B. Johnson and L. H. Chernoff, New Haven, Conn
97 Intermediary Metabolism of Amino-Acids. H. D. Dakin, New York.

87. **Quantitative Chemical Analysis of Human Bile.**—Rosenbloom examined 3,180 c.c. of bile obtained from a patient with a biliary fistula. His analysis yielded the following results: bile salts, 10.1; mucin and pigments, 4.86; cholesterol, 2.61; fat, 6.85; soaps, 2.6; lecithin, 6.42; total solids, 29.8; inorganic, 9.2; water, 970.2; fatty acids, 1.2.

92. **Clinical Estimation of Urea.**—The procedure described by Marshall is said to be peculiarly useful in its application to pathologic urines since the presence of glucose and protein, usually so annoying in the estimation of urea, are without influence here and need not even be removed. In the preparation of the enzyme solution, soy beans are ground to a fine powder which can be preserved in well-stoppered dry bottles for months without appreciable loss of activity. Twenty-five grams of this powder are mixed with 250 c.c. of distilled water, and allowed to stand with occasional agitation for about an hour.

Twenty-five c.c. of N/10 hydrochloric acid are now added, and the mixture allowed to remain a few minutes longer (best in a water bath at about 35 C.), when a large proportion of the protein of the bean extract is precipitated. The mixture is filtered; the filtrate treated with a few drops of toluene and preserved for use in a stoppered vessel. On standing the originally clear fluid becomes opalescent, and finally a precipitate is formed, but the solution remains sufficiently active for use in the method at least five days after its preparation when kept at the room temperature. This solution is alkaline to methyl orange, and 2 c.c. generally require from 0.28 to 0.34 c.c. N/10 hydrochloric acid for neutralization. This factor should be determined once for 2 c.c. of each preparation and can then be employed as a correction as long as the solution is used. The alkalinity is apparently constant from day to day. If for any reason the extract should not be distinctly alkaline to methyl orange, less acid should be used in its preparation, as an extract which reacts acid to methyl orange is scarcely active.

In the execution of the method two 5 c.c. portions of the urine are measured into flasks of 200-300 c.c. capacity and diluted with distilled water to about 100-125 c.c. Two c.c. of enzyme solution are added to one flask, a few drops of toluene to each and the solution allowed to remain, well stoppered, at room temperature over night. The fluid in each flask is titrated to a distinct pink color with N/10 hydrochloric acid using methyl orange as an indicator. The amount of hydrochloric acid required for the contents of the flask containing the urine and enzyme solution less the amount used for 5 c.c. of urine alone and that previously determined for 2 c.c. of enzyme solution, corresponds to the urea originally present in the sample of urine.

Since 1 c.c. of N/10 hydrochloric acid is equivalent to 3 mg. of urea, the number of cubic sentimeters required multiplied by 0.6 gives the value of urea expressed in grams per liter of urine. The time required for complete hydrolysis of the urea depends on the quantity of urine used, the concentration of the urea, the amount of enzyme present and the temperature of action. The velocity of the reaction is approximately twice as rapid at 35 C. as at 25 C., and directly proportional to the enzyme concentration within certain limits. The conversion is complete in less than one hour at 35 C., when 10 c.c. of the enzyme solution are employed instead of 2 c.c. A cloudiness, however, is produced on titrating a solution containing 10 c.c. of the enzyme mixture, which renders the end point uncertain and the procedure less accurate. With the use of only 2 c.c. of enzyme solution this cloudiness is scarcely noticeable.

If more rapidity is required than is attained by the method as outlined, digestion for three hours at a temperature of 35 C.-28 C. will suffice, or, if accuracy is to be sacrificed to rapidity, less urine and more enzyme solution can be employed.

Journal of Cutaneous Diseases, New York

April, XXXI, No. 4, pp. 221-304

98 Classification and Nomenclature of Acquired Cutaneous Syphilis. G. H. Fox, New York.
99 Granuloma Inguinale Tropicum: Report of Three Cases. J. Grindon, St. Louis.
100 Scaphoid Scapula and Its Syndrome: Connection with Syphilis in Ascendants. W. W. Graves, St. Louis.
101 Multiple Lymphoid Tumors of Skin: Report of Case. J. M. Winfield, Brooklyn.
102 *Can Psoriasis Be Cured? A. Ravogli, Cincinnati.

102. **Can Psoriasis Be Cured?**—Ravogli has nearly abandoned the use of chrysarobin, pyrogallol and tar, for the reason that they cause too much discomfort to the patient. He finds that in cases of ordinary psoriasis a salve with white precipitate gives the best results:

℞	gm. or c.c.		
Hydrarg. precip. alb.	33-66		gr. v to x
Bismuthi subcarb.			
Zinci oxydi	2	or	āā ʒ ss
Phenolis	4		gtt. vi
Petrolat. alb.	30		℥ i

Laryngoscope, St. Louis

March, XXIII, No. 3, pp. 161-240

103 Innocent Growths of Larynx: Eight Cases. J. W. Wood, London.
104 Laryngotracheal Manifestations of Thyroid Disease. O. J. Stein, Chicago.
105 Determining Factors in Tinnitus Aurium. E. P. Fowler, New York.
106 Some Curable Affections of Acoustic Nerve. A. Lewy, Chicago.
107 Some Ethical Problems Confronting Eye, Ear, Nose and Throat Specialist. L. Emerson, Orange, N. J.
108 Extradural Abscess Complicating Frontal Sinusitis. R. H. Johnston, Baltimore.
109 Fibrinous Rhinitis. V. Dabney, Washington, D. C.
110 The Monochord. M. A. Goldstein, St. Louis.
111 Mouth Gag with Permanently Attached Tube for Continuous Etherization and New Tonsil Grasp. W C. Wood, Philadelphia.
112 Curet for Bridge in Radical Mastoid. M. D. Stevenson, Akron, Ohio.
113 Corwin's Tonsil Hemostat. A. M. Corwin, Chicago.

Medical Record, New York

April 12, LXXXIII, No. 15, pp. 645-690

114 Peritoneal Adhesions of Insidious Toxic Group. R. T. Morris, New York.
115 Prevalence of Catarrhal Deafness and Its Economic Consideration. H. Hays, New York.
116 Osteitis, Periostitis, Etc. W. W. Griffin, New York.
117 Results of Tonsillectomy. B. DeF. Sheedy, New York.
118 *Pathology and Treatment of Callous Ulcer of Bladder. L. Buerger, New York.
119 Sexual Disorders Associated with Disease of Nervous System. W. M. Leszynsky, New York.
120 Accuracy of Systolic Blood-Pressure Determinations by Various Methods and Clinical Use of Diastolic Pressure. L. Clendenning, Kansas City, Mo.

118. **Callous Ulcer of Bladder.**—Buerger summarizes his paper as follows:

Clinical, cystoscopic and pathologic studies in two cases of vesical ulceration have conclusively shown that simple callous ulcer of the bladder can and does exist. The clinical symptoms of this condition are intense dysuria, urgency, frequency of micturition with sanguineous and purulent urine. The manifestations became progressively more marked and take a chronic course. The chronicity of this disease and the progressive impairment of vesical capacity speak strongly for the view that chronic cystitis and contracted bladder are often the sequelae and outcome of solitary ulceration. The region of the trigone seems to be the favorite site for the chronic indurated type of ulceration. Although designated as simple, and often as solitary ulcer of the bladder, this condition may be accompanied by one or more superficial erosions of the mucous membrane, elsewhere in the bladder interior, lesions which are undoubtedly secondary to the intense cystitis accompanying the ulcer.

The most effective and rapid method of curing the disease as well as the simplest procedure is the excision of the ulcerated area by means of the author's operating cystoscope and punch forceps. Less radical measures of treatment, such as cauterization with the actual cautery or fulguration, and silver nitrate irrigation are of no avail in this type of ulcer. Histologic examination in two cases has shown that the pathology of this condition is rather characteristic, there being a superficial deposit of urinary salts, a layer of necrosis and ulceration. and a stratum of newly formed connective tissue with active evidences of inflammation. The margin of the ulcer shows intensely vascular inflamed mucous membrane and submucosa.

In every case of chronic cystitis, particularly in women, in which dysuria, urgency and frequency of micturition are marked, a careful search should be made for this form of ulcer, for if it be present, it is more than likely that chronic cystitis, irritable and contracted bladder are secondary, and may be cured by the method advocated

Mississippi Medical Monthly, Vicksburg

April, XVII, No. 12, pp. 231-250

121 Venereal Prophylaxis. A. J. Jagoe, Clarksdale.
122 Some Experiences with Pellagra. G. M. Shaw, Robinsonville.
123 Pneumonia; Bronchopneumonia; Capillary Bronchitis; Lobular Pneumonia: Catarrhal Pneumonia. R. M. Donald, Hattiesburg.
124 Better Health Conditions for Country How Obtained. J. M. Gurney, Tuvelo.

New York Medical Journal

April 12, XCVII, No. 15, pp. 741-796

125 Poliomyelitis and Variola. F. Proescher, Pittsburgh.
126 Pathology of Neuralgia. G. McConnell, Philadelphia.
127 How Much of Eugenics is Scientific? C. E. Nammack, New York.
128 Atypical Children. S. P. Goodhart, New York.
129 Hemorrhoid Operations. L. Watson, Oklahoma City, Okla.
130 Improvements in Speculum. P. Z. Herbert, New York.
131 Exercise and Diet in Relation to Growth. R. H. Dennett, New York.
132 Treatment of Pneumonia. M. Packard, New York.
133 Jequirity in Ophthalmic Work. J. Allan, London, England.
134 Heart-Block (Adams-Stokes Syndrome). I. W. Held, New York.
135 Suitable Amusements for Growing Child. P. M. Van Voast, New York.

136 Diseases Influencing Growth. B. R. Hoobler, New York.
137 Acute Anterior Poliomyelitis Following Bite of *Dog Infected* with Rabies. H. B. Haywood, Raleigh, N. C.
138 Injection of Salvarsan. R. Ormsby, New York.

Pennsylvania Medical Journal, Athens

March, XVI, No. 6, pp. 421-512

139 *Hypophysis Cerebri in Disease; Method and Results of Surgical Intervention. C. H. Frazier, Philadelphia.
140 Gradually Developing Hemiplegia Due to Cerebral Neoplasm. M. H. Fussell and S. Leopold, Philadelphia.
141 Paraplegia in Hodgkin's Disease: Treatment by Laminectomy and Roentgen Rays. C. K. Mills and E. Martin, Philadelphia.
142 Cases Illustrating Certain *Phases of Cerebrospinal Surgery.* J. S. Rodman, Philadelphia.
143 *Treatment of Talipes. D. P. Willard, Philadelphia.

139. Also published in the *Annals of Surgery*, February, 1913, and abstracted in THE JOURNAL, Oct. 26, 1912, p. 1566.

143. Abstracted in THE JOURNAL, Nov. 16, 1912, p. 1814.

Southern Medical Journal, Nashville

April, VI, No. 4, pp. 219-288

144 *Studies of Malarial *Fevers in Alabama.* R. H. von Ezdorf, Mobile, Ala.
145 *Early and Undeveloped* Cases of Pellagra. B. R. Tucker, Richmond, Va.
146 *Luetin Skin Reaction in Diagnosing Syphilis. C. A. Simpson, *Washington, D. C.*
147 Latent Gout and Its Manifestations. C. M. Nice, Birmingham, Ala.
148 Medical Inspection of Schools in South Carolina. L. R. H. Gantt, *Spartanburg*, S. C.
149 Forty-Eight Cases of Goiter. E. G. Jones, Atlanta, Ga.
150 Gastric and Duodenal Ulcer. P. C. Perry, Jacksonville, Fla.
151 *Discrepancy Between* Clinical and Post-Mortem Findings in Cancer of Stomach. W. A. Bryan, Nashville.
152 Gastric and Duodenal Ulcers, with Special Reference to Method of Operative Procedure Employed. F. Martin, Baltimore.
153 Volvulus of Sigmoid Flexure; Report of Case. G. T. Tyler, Greenville, S. C.

144. Abstracted in THE JOURNAL, Nov. 30, 1912, p. 1999.

146. Luetin Skin Reaction in Diagnosing Syphilis.—Simpson has injected over fifty patients with luetin, but has been able to follow and control with Wassermann's only forty-three cases. These results include cases in all stages of syphilis from early secondary to late tertiary forms and five cases of tabes. In thirty-eight active cases of syphilis, some in the first few months of the disease, he got over 80 per cent. positive reactions, while the late tertiary cases under treatment gave a much higher percentage. In the five cases with clinical *symptoms of tabes, three gave a history* of syphilis and of these only two gave positive Wassermanns and both of these gave positive luetin reactions.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Bristol Medico-Chirurgical Journal

March, XXXI, No. 119, pp. 1-96

1 *Case of Acute Septicemia Due to B. Pyocyaneus. J. M. Clarke.
2 Aleucocythemic Leukemia. R. Waterhouse.
3 Case of Alternating Oxaluria and Phosphaturia. F. H. Edgeworth.
4 Idem. C. W. J. Brasher.
5 Intravenous Administration of Neosalvarsan in Syphilis. J. A. Nixon.
6 Example of *Stokes-Adams* Syndrome. C. Coombs.
7 *End-Results of Cases Operated *On for Gall-Stones.* A. R. *Short.*
8 Treatment *of Chronic* Constipation. F. H. Edgeworth.

1. Pyocyaneus.—Clarke's patient, male, aged 15, was suddenly taken with headache, drowsiness and vomiting; there were no rigors. He felt ill, but kept at work three days, when he took to his bed, where he remained, complaining chiefly of headache, drowsiness, weakness and slight cough. There was no return of the initial vomiting, no diarrhea, no jaundice, no photophobia, *no pains in limbs. On the fifth day*, patient was weak and drowsy, he lay on his back with his eyes closed, and complained of frontal headache. Pulse 82, regular. Temperature 100 F. Respiration 20. Bowels constipated. Tongue furred thickly. Except for *the signs of bronchitis, the lungs* were normal. Heart, liver, kidneys, normal. The nervous symptoms predominated at this time. He was very drowsy, but sensible; answered when spoken to, and was not delirious. On the tenth day he had a distinct rigor. *On the twelfth day* he fell asleep directly after feeding; there was photophobia, and he covered his head with the bedclothes, otherwise *no change* in his condition, and no fresh physical signs of organic disease in nervous system or lungs. The bronchitis continued. Profuse sweats. The *case* at this stage resembled, clinically, one of meningitis. On the sixteenth day *there was distinct jaundice*, edge of liver was one inch below the costal margin, splenic dulness was increased, and the tip felt. A systolic murmur appeared over the base of *the heart. No hemorrhages* or petechiae into skin. Fresh rigors had occurred. Lumbar puncture. The cerebrospinal fluid dropped out slowly, it was clear, and contained a few polymorphonuclear cells and no organisms. During the following week he was *extremely ill*, deeply jaundiced, restless, and tossing about constantly, especially at night. He was so ill that after this time it was difficult to examine him. He was constantly groaning, which obscured the lung and heart sounds and during the last few days he could not be turned over to examine the back of his lungs carefully. He rapidly emaciated, and for some days exhaled a marked cadaveric odor. On the twenty-third day, he was much emaciated and deeply jaundiced. The liver appeared reduced in size, the *spleen decidedly enlarged. The* urine contained many crystals of calcium carbonate. There were no enlarged glands, and no hemorrhages throughout the illness. The pulse was soft and running. Tongue very dry and furred. No abdominal distention. The motions were very *light in color. There* was some dulness at the bases behind, and rhonchi and scattered moist crepitations over both lungs, but his constant groaning interfered with auscultation Blood.—Erythrocytes, 2,890,000; leukocytes, 14,000; *hemoglobin*, 35 per cent. The next *day the* *B. pyocyaneus* in pure culture was recovered from the blood and feces. Patient died on the twenty-fifth day of his illness. After death the *B. pyocyaneus* was recovered in pure culture from the *heart's blood, pleural exudate and* lung abscesses, *but not from* the spleen or brain.

7. End-Results of Cases Operated on for Gall-Stones.—Of eighty-six patients operated on for gall-stones by Short twelve died, but the mortality in ordinary and febrile cases was 12 per cent. *Unlike most statistics, the mortality* was higher in removals of the stone from the gall-bladder than from the common duct. Of sixty patients followed through for more than a year, about 82 per cent. are quite cured, or very greatly *improved. Failure* is usually *due to* adhesions, not to recurrence of the stone formation. Where adhesions were found to be extensive, six out of nineteen died. Of those traced, four out of eleven were but little improved (36 per cent. failures). Apart from adhesions, there were only 10 per cent. failures. According to Short's figures, of 100 ordinary afebrile patients operated on, twelve died, seventy-five are greatly improved or quite cured, and thirteen are not much bettered. Cases are *related of intestinal obstruction* by a gall-stone, vomiting a stone, injury of the portal vein, general peritonitis due to gall-stones, deaths from perforating gastric ulcer and from hematemesis caused by a gastric ulcer soon after operation for gall-stones, and diabetes supervening long afterward.

British Medical Journal, London

March 29, I, No 2726, pp. 645-696

9 *Mucous Channels and *Blood-Stream* as Alternative Routes of Infection. C. J. Bond.
10 **Genital Functions of Ductless Glands in Female.* W. B. Bell.
11 Esthetics of Medicine. C. J. Macalister.
12 **Henoch's Purpura* with Intussusception: Laparotomy: Recovery. S. Barling.

9. Routes of Infection.—The main point made by Bond is that, when an organism like the *Bacillus coli reaches the pelvis* of the kidney by ascending the urinary tract, it produces symptoms and effects which differ from those produced by the same organism when it reaches the kidney by way of the blood-stream. He also suggests that these differences depend on the fact that the organism is undergoing adaptation to a mucous and urinary environment in the one case and a blood or lymphatic stream environment in the other.

10. Published in the *Lancet*, March 22, and abstracted in THE JOURNAL, April 19.

12. **Henoch's Purpura with Intussusception.**—Barling's patient, a boy aged 4, had suffered from stomach-ache and frequent attacks of sickness for twelve months. Three weeks before admission the attacks of abdominal pain and sickness became more noticeable, and were accompanied by a rash which appeared on the buttocks, and then spread to the limbs; the rash at first was definitely urticarial, the spots being raised above the surface and about the size of a shilling; these spots soon became hemorrhagic. On one occasion the mother noticed a small amount of blood in the stools. The rash faded, but fresh crops of a similar nature came out, the spots, however, being smaller. The child gradually improved, but at the end of three weeks, on the evening before admission, he had a sudden violent attack of abdominal pain, worse than anything he had ever experienced previously; he was sick, and almost immediately dark fluid blood was passed from the bowel. These symptoms of violent pain, sickness and hemorrhage from the bowel continued intermittently throughout the night, but abated somewhat on the morning of admission. He was seen by his doctor six hours after the attack had started; examination of the abdomen, on the suspicion of an intussusception being present, failed to reveal a tumor. On admission, twenty hours after the onset of pain, the child was pale and quiet, pulse 128, temperature normal; the abdomen was soft, and an irregular trilobed tumor could be felt lying somewhat transversely in the epigastrium, and apparently somewhat movable on respiration. Per rectum nothing could be felt; dark fluid blood, however, escaped on removing the finger from the bowel. The urine contained a light cloud of albumin, but gave no reaction to guaiacum. On the knees and the elbows, there was a slightly raised papular rash, some of the papules showing old hemorrhage. A median incision above the umbilicus revealed a dark tumor lying more or less transversely across the abdomen; owing to the force with which the invaginated bowel had been thrust into the lumen of the colon, the latter had become bent on itself, giving the trilobed appearance which had been noticed on examination. The tumor was about 10 in. in length and the apex of the intussusception was in the upper part of the descending colon. The distal half of the swelling reduced quite easily; the proximal 4 in., however, required some twenty minutes' manipulation before the invaginated bowel could be freed, and in effecting this reduction the peritoneal coat of the ascending colon tore. This residual part of the tumor consisted of the ascending colon, containing the caput ceci, the appendix, and some 18 in. of the lower end of the ileum. These were expressed in turn. The appendix, cecum and the ileum that had been involved in the intussusception showed extensive interstitial hemorrhage, and some inches of small bowel were black and apparently gangrenous. The part of the ileum above the obstructed portion was distended for some distance by dark blood-stained fluid lying in its lumen. The gangrenous portion of bowel, together with some inches on the proximal and distal sides of it, was excised, about 12 in. in all being removed, the open ends of the bowel crushed and turned in, and the continuity of the gut established by a lateral anastomosis between the ileum and the lower part of the ascending colon. The patient suffered much from shock, and was very restless for the first forty-eight hours, but after that made satisfactory progress.

Edinburgh Medical Journal

April, X, No. 4, pp. 289-384

13 General Paralysis of Insane G. M. Robertson.
14 Case of Ruptured Very Early Primary Ovarian Pregnancy. G. Chiene.
15 Multiple Myeloma, and Its Association with Bence-Jones' Albumose in Urine. T. Shennan.
16 Rheumatoid Arthritis in Children. J Lindsay.
17 Re-Formation of Bone After Resection. G. A. Pirie.
18 Nephritis, with Ascites, Bilateral Hydrothorax and General Edema, in Secondary Syphilis. F. P. Weber.

Indian Medical Gazette, Calcutta

March, XLVIII, No. 3, pp. 89-128

19 Value of Amorphous Cinchona Alkaloid in Malaria. E. E. Waters.
20 Anaphylaxis. W. D. Sutherland.
21 Management of Puerperium and Its Relation to Puerperal Fever. G. T. Birdwood.
22 Two Patients Successfully Treated by Psychotherapy. O. Berkeley-Hill.

Lancet, London

March 29, I, No. 4674, pp. 869-936

23 Intrathoracic Aneurysm. F. Dell. Hall.
24 *Eczema Oris as Manifestation of Congenital Syphilis. L. Findlay and H. F. Watson.
25 Relation of Puberty and Menopause to Neurasthenia. H. Macnaughton-Jones.
26 Hyoscin-Morphin Anesthesia for Alcohol Injection in Neuralgia. W. Harris.
27 Clinical Study of Pulmonary Tuberculosis. C. T. Williams.
28 Individual Treatment of Diabetes. S. A. Arany.

24. **Eczema Oris in Congenital Syphilis.**—There is, according to Findlay and Watson, one form of skin disease which, so far as the literature reveals, has not been so considered, and which they propose to designate "eczema oris syphilitica." Their attention was directed to the condition in a boy, suffering from infantile paralysis. The boy presented no specific stigmata, and no history of anything suggestive of syphilis in infancy could be elicited, yet in both his mother and himself the blood was found on examination to react very strongly to Wassermann's test. In its most typical form the lesion is situated at one or both angles of the mouth and radiates therefrom toward the cheek, sometimes in the form of fan-shaped patches. It may, however, completely surround the mouth and implicate the face extensively. The patches are somewhat irregular in shape with sharply cut or ill-defined margins. They are red in color, at times the hyperemia being very marked. The surface is, as a rule, dry and scaly, although occasionally, and especially during an exacerbation of the mischief, there may be some discharge with the formation of crusts, and at this period there is always a certain degree of induration. The eczematous patch is continuous with, and frequently invades the mucous membrane of the lip, giving it a slightly papillary appearance. The lips themselves may be swollen to a greater or less degree. A similar condition around the nostrils, where there is usually a greater tendency to moisture and eczema tarsi, are also present in a proportion of the cases. It is a most obstinate and chronic malady, never entirely disappearing, though varying much in severity from time to time. The patients do not as a rule present any specific stigmata, and the proof that the lesion is of a syphilitic nature rests on the presence of a positive Wassermann reaction and on the result of anti-specific treatment. In five out of twenty-one cases seen by Findlay and Watson, however, definite specific stigmata—e. g., deafness, notching of the upper incisors, "saddle nose," or cicatrices round the mouth —were present. The diagnostic features on which they lay most stress are the chronicity, but more especially the situation of the lesion at the angles of the mouth with implication of the mucous membrane of the lips.

Sei-I-Kwai Medical Journal, Tokyo

March, XXXII, No. 3, pp. 17-40

29 Method of Increasing Body Weight. H. Sewaki.

Annales de l'Institut Pasteur, Paris

February, XXVII, No. 2, pp. 97-184

30 Autolysis. (Etude de biologie générale.) M. Nicolle.
31 Autolysis of the Colon Bacillus. (Expériences sur l'autolyse du coli-bacille.) E. Alilaire.
32 Research on Immunization Against Anticoagulating Action of Peptone. E. and M. Pozerska. Commenced in No. 1.
33 Sterile Tadpoles. (Sur l'élevage des têtards stériles.) E. Wollman.
34 Vaccination of Cattle Against Tuberculosis. (Nouvelles recherches expérimentales sur la vaccination des bovidés contre la tuberculose et sur le sort des bacilles tuberculeux dans l'organisme des vaccinés.) A. Calmette and C. Guerin.
35 Vaccination Against Typhoid. (De l'action du sérum antityphique de Besredka sur l'évolution, de la fièvre typhoide.) C. Andriescu and M. Ciuca.
36 Comparative Resistance to Autolysis of Different Bacteria. (Préparation de "solutions" toxiques à l'aide de l'autolyse.) A. T Salimbeni.

Annales de Médecine et Chirurgie Infantiles, Paris

March 15, XVII, No. 6, pp. 165-200

37 *The Cerebrospinal Fluid. (Séméiologie du liquide céphalo-rachidien.) F. Rathery.
38 *Infantile Scorbutus. (*La maladie de Barlow; 8 cas.—Essai de traitement prophylactique.*) P. de Sagher.
39 *Chronic Diphtheria of the Air Passages. A. Gouget.
40 Efficacy of Serotherapy in Pure Cases of Typhoid Fever; 131 Cases. M. A. Rodet.

37. **The Cerebrospinal Fluid.**—Rathery reviews the information that may be obtained from the cerebrospinal fluid by physical, chemical, histologic, bacteriologic and biologic examination.

38. **Infantile Scorbutus.**—De Sagher has found that the *increasing* use of artificial foods seems to be increasing the prevalence of scorbutus in infants. He has encountered six well defined cases during the last year, and describes in detail eight. They were all in well-to-do families as the children of the poor are not fed on these expensive artificial foods and usually are given early a little food from the family table. *He is convinced that incomplete forms of scorbutus are more frequent than is generally recognized*; he knows of a number of instances in which the infants were treated for Pott's disease or coxalgia or osteomyelitis. Even Marfan diagnosed in one case "pseudoparalysis of syphilitic origin," which proved to be merely scorbutus. Hutinel warns that scorbutus should be thought of first in every case of painful paraplegia in an infant, or even when the child is merely a little uneasy when its legs are touched. *Do not wait for further symptoms of scorbutus to develop.* Scorbutus is exceptional under five months and after two years of age. In de Sagher's cases some of the infants had been fed on condensed milk, some on nutricia milk, some on maltosan and some on boiled milk. To ward off any danger from this cause, he orders systematically, after the age of six months, from 2 to 6 teaspoonfuls a day of grape juice, adding to this after two or three months from 1 to 3 teaspoonfuls of some preserve, his preference being banana jam. This not only wards off scorbutus but it combats constipation and supplies a little iron. None has ever developed scorbutus among the children fed in this way.

39. **Chronic Diphtheria of the Air Passages.**—Gouget discusses some recent cases in which diphtheria bacilli were found in the sputum of persons from several months to years after diphtheria. Beyer's patient was a man of 43 with chronic fibrinous tracheobronchitis and no measures proved successful in banishing the diphtheria bacilli from his sputum, so that the attempt was abandoned after nine months of futile efforts. Schmidt's patient was a woman of 62 with chronic interstitial pneumonia with varying general symptoms for ten years during which period diphtheria bacilli could be cultivated from the sputum. The bacilli did not prove virulent for guinea-pigs, however.

Archives Mensuelles d'Obstétrique et de Gynécologie, Paris

March, II, No. 3, pp. 225-320

41 *Chronic Appendicitis and Disease of the Ovaries. (*Appendicite chronique et ovaires sclérokystiques.*) L. N. Lapeyre.
42 *Placenta Tumors. (De la nature inflammatoire des chorio-angiomes placentaires.) E. Plauchu and P. Savy.
*Salvarsan and Neosalvarsan in Pregnancy and the Puerperium. (Etude sur les résultats observés à la clinique Tarnier par l'emploi du salvarsan et du néo-salvarsan chez les femmes enceintes, chez les femmes en couches et chez l'enfant nouveau-né.) J. Lemeland and H. Brisson

41. **Chronic Appendicitis and Sclerocystic Ovaries.**—Lapeyre reports seventeen cases from which he concludes that chronic appendicitis in women seems to be habitually accompanied by degeneration of the ovaries. The ovarian lesions may cause spontaneous and induced pain during and between the menses, dysmenorrhea, irregular menstruation and hemorrhages. *The uterus at the same time generally shows signs of hyperplasia and is often displaced.* The whole trouble is probably some primary disturbance in the sympathetic nervous system; this explains the alterations in the various organs as the nutrition suffers—ptosis, *colitis and sclerocystic* degeneration of the ovaries and chronic inflammation of the appendix. The central nervous system, irritated by some peripheral disturbance in some lesion in the vulva, vagina, uterus, appendix or pelvis, reacts by a *reflex mechanism on* the trophic nerves of the ovary. Treatment should aim to cure the local lesions *before* the central nervous system has been too seriously impaired. *When the abdomen is opened it should be on the median line in* women so as to permit systematic inspection of the entire pelvis and appendix region.

42. **Inflammatory Nature of Benign Tumors of the Placenta.**—Plauchu and Savy regard these tumors as frequently of syphilitic origin and in all cases due to a process resembling that of an infarct. These non-malignant tumors have a *most* nefarious influence on the vitality of the fetus. He found only thirty living children mentioned in fifty-four cases on record, and gives an illustration of a case personally observed.

43. **Salvarsan and Neosalvarsan for Parturients and New-Born Infants.**—Lemeland and Brisson here conclude their long report on this subject. They did not find either of the drugs invariably effectual in transforming a positive Wassermann reaction into a negative; it fluctuates almost immediately but soon returns to its former height. They found that neosalvarsan seems *to* disturb the organism more than salvarsan, and that its use is dangerous even in the moderate doses employed. It should be reserved until after it has established its standing in therapeutics.

Bulletin de l'Académie de Médecine, Paris

March 11, LXXVII, No. 9, pp. 169-198

44 Importance of Mode of Access in Surgery. (De l'importance des voies d'accès dans l'enseignement de la médecine opératoire.) E. Delorme.
45 *Vaccination Against Typhoid in the United States. M. Chantemesse.

45. **Vaccination Against Typhoid.**—See the Paris Letter in THE JOURNAL, April 12, p. *1166*.

Journal de Chirurgie, Paris

March, X, No. 3, pp 273-416

46 The Multiple Applications of Appendicostomy. L. Arnaud.

Journal de Médecine de Bordeaux

March 23, XLIII, No. 12, pp. 179-192

47 *Tonic-Clonic Spasmodic Torticollis. Desqueyroux.
48 *Occlusion of Intestine by Retrodisplaced Normal Uterus. (Occlusion intestinale par rétrodéviation d'un utérus normal.) H. Lefèvre.

47. **Spasmodic Torticollis.**—The patient was a girl of 17 taken suddenly with an apoplectiform attack followed by spasmodic *contracture of the muscles of the neck* bending the head down almost to the mamma. There were probably some minute lesions in the brain or medulla and this induced the contracture, but their action would probably have been only transient if it had not been for a tendency to hysteria which perpetuated and aggravated the spasms.

48 **Ileus *from Displacement of Normal Uterus.***—Lefèvre's patient was a woman of 45 who for several years had had vague symptoms from retrodeviation of the rather large uterus. Otherwise she was in perfect health when she was jolted in a carriage and suddenly experienced intense pain and other signs of ileus with great depression. A loop of the small intestine was found incarcerated in the pouch of Douglas, the fundus of the uterus pinning the intestine against the sacrum. Correction of the displacement released the bowel and cured the patient at one stroke. Ileus from this cause in a non-pregnant woman is exceptional, according to the literature. Lefèvre could find *only* two *cases* on record (Koeberle and Cricks) in which an apparently normal non gravid uterus had induced ileus. Cricks' patient died. In Lefèvre's case the jolting *of the carriage* had evidently *flung* up the retroflexed fundus for a moment and during this moment the loop of intestine had slipped down behind it.

Lyon Médical, Lyons

March 23, XLV, No. 12, pp. 605-664.

49 *Conditions Which Favor Application of Direct Sunlight in Therapeutics. (Des conditions qui favorisent la pratique de l'héliothérapie.) L. Jaubert.

49. **Conditions Which Favor Heliotherapy.**—Jaubert reviews the history of the utilization of the sun's rays in the treatment of disease and calls attention to its great value, particularly in surgical forms of tuberculosis. To get the best effect all factors which add to its value should be taken into consideration. Sun porches should preferably face south or, if that is impracticable, east in order to get the morning sun. Spring and summer are the most favorable seasons for the treatment, because the ultraviolet rays, which are particularly beneficial, are more abundant then. The air should be clear, the atmospheric moisture moderate and the prevailing winds not too strong. Where a choice of climate is possible, all these conditions should be taken into consideration and the patient sent to a high altitude or a warm sunny region. But heliotherapy may be utilized in any country and hospitals should always be built with sun porches with the most favorable exposures.

Presse Médicale, Paris

March 19, XXI, No. 23, pp. 221-228

50 Treatment of Gunshot Wounds. (Du traitement des blessures par balles de revolver et de fusils de guerre.) P. Reclus.
51 *Direct Sunlight in Treatment of Non-Tuberculous Disease. (L'héliothérapie dans les affections non tuberculeuses.) A. Aimes.

March 22, No. 24, pp. 229-240

52 Estimation of Minimal Blood-Pressure as the Standard Unit. (Une orientation nouvelle de la sphygmomanométrie.) V. Pachon.
53 Local Agglutinins in Diagnosis of Tuberculosis. L. Karawacki.
54 *Ozone in Treatment of Glycosuria. (Quelques états glycosuriques traités par l'ozone.) D. Labbé and P. Pérochon.

51. **Direct Sunlight in Treatment of Non-Tuberculous Affections.**—Aimes enumerates the various affections in which heliotherapy has been found an extremely useful adjuvant, citing various authors. The list includes varicose ulcers, burns, sprains and contusions, certain gynecologic affections, atrophied muscles, resolution of inflammatory exudates, and the sequels of phlebitis and conjunctivitis. He states that the mucosa is less sensitive to the sunlight than the skin, and relates that of forty-eight eyes with trachoma, thirty-five were cured by exposure to the direct sunlight at two sittings and there has been no recurrence during the long period since. The conjunctiva of the lids bears prolonged exposure to the direct sunlight without harm, according to Borel's experience, but he did not notice any improvement from the exposures in rheumatic iritis, in mycosis or in syphilitic affections. Aimes reiterates that heliotherapy can be applied everywhere and is within the reach of all, while the results may be remarkable and that no one should neglect this simple and easy method of treatment.

54. **Ozone in Treatment of Glycosuria.**—Labbé and Pérochon have their patients with glycosuria inhale ozone for from fifteen to thirty minutes a day, and have found that in some way it promotes the utilization of sugar so that sugar disappears more or less completely from the urine. Eight typical cases are described to show the benefit thus realized. In one case, for example, a man of 57, had had diabetes for six years and 50 gm. of sugar were found in the liter of urine. He inhaled ozone for fifteen minutes a day for two months by the end of which time the sugar had vanished from his urine. Two weeks later the sugar appeared anew in the urine and ran up to 8 gm., but subsided to traces on resumption of the ozone treatment. Another patient was a woman of 66 with diabetes for many years. She had 150 or 200 gm. of sugar to the liter of urine and this became materially reduced under the ozone treatment and her severe pruritus became very much improved. They theorize to explain the effect of the ozone: It seems to promote assimilation of carbohydrates. The nascent oxygen fastens on the reds and they transport it to all the tissues.

Revue de Gynécologie, Paris

January, XX, No. 1, pp. 1-112

55 Ovarian Teratoma Removed at Age of 50. (Névraxo-épithéliome de l'ovaire.) Gosset and P. Masson.
56 *Cancer of the Ampulla of Vater. D. Clermont.

56. **Cancer of the Ampulla of Vater.**—Clermont gives the details of a case from the Toulouse surgical service and summarizes thirty others from the literature. He approves of operating at two sittings, and insists on an early exploratory laparotomy as the outlook is comparatively good with cancer at this point. It causes symptoms early and shows little disposition to spread.

Revue Médicale de la Suisse Romande, Geneva

March, XXXIII, No. 3, pp. 177-284

57 Salvarsan in Syphilis. (Sur les résultats acquis dans le traitement de la syphilis par la médication d'Ehrlich.—Des neurorécidives.) Dind.
58 *Early Sign of Incipient Pericarditis. (Signe précoce de péricardite.—Eclat clangoreux diastolique au foyer pulmonaire.) G. Turrettini.
59 Much Technic for Examination of Sputum. (Le procédé de Much pour la coloration des bacilles de Koch dans les crachats; sa valeur clinique.) A. Cramer.

58. **Early Sign of Incipient Pericarditis.**—Turrettini wonders that greater attention has not been paid to the sign of impending pericarditis or endocarditis which Josserand noted some years ago. This is a sudden and violent clanging diastolic sound in the pulmonary area. In two recent cases Turrettini noticed the development of this sound and it was soon followed by other signs of pericarditis. The peculiar clanging nature of the secondary pulmonary sound was very pronounced and the vibration could be perceived by the hand. The second aortic sound was perceptible but less marked. One patient had chronic nephritis with hypertrophy and dilatation of the left heart and the fibrinous pericarditis, ushered in by the *éclat clangoreux diastolique*, developed under his eyes as the patient was under treatment for the kidney disease. There was no necropsy in the second case but clinically the conditions seemed to be the same as in the first case. The friction sound soon followed in both. In two other cases of pericarditis from the spread of a pleural process this peculiar clang to the sound was never noticed. He urges study of this clanging sound as the importance is obvious of being able to recognize incipient pericarditis and by instituting treatment in time possibly to ward it off. It is particularly valuable in the course of acute articular rheumatism as it may give warning in time for intensive treatment to save damage to the heart.

Semaine Médicale, Paris

March 26, XXXIII, No. 13, pp 145-156

60 *Clinical Forms and the Diagnosis of Syphilitic Cerebellar Hemiplegia. P. Marie and C. Foix.

60. **Syphilitic Cerebellar Hemiplegia.**—Marie and Foix have recently published a study of the common basis for the symptoms and signs of syphilitic cerebellar hemiplegia, and they now analyze the different manifestations which are encountered with lesions at different levels and of different degrees of severity. The article is accompanied by seventeen illustrations, with reports of typical cases. The lesions causing the disturbance are grave from the standpoint of the functional prognosis, but do not seem otherwise threatening except from the serious fact that they were always accompanied by a syphilitic meningitis, manifested by lymphocytosis in the cerebrospinal fluid during life and by the necropsy findings. This active meningitis is fraught with grave danger both in itself and by its aggravating influence on the cerebellar processes. In any event they say, vigorous antisyphilitic measures are needed to arrest, if possible, the active process although irreparable lesions already installed are beyond relief. The writers warn to search for the minor signs of a cerebellar lesion in every nervous affection, seeking confirmation by the findings of lumbar puncture.

Archiv für klinische Chirurgie, Berlin

C, No. 4, pp. 939-1192. Last indexed March 22, p. 947

61 *Why Living Tissue is Not Digested by Gastric Juice. (Zur Entstehung des Magengeschwürs.) M. Katzenstein. To be continued.
62 Fascia Hammock for Nephropexy. (Nephropexie vermittelst transplantativer Bildung einer fascialen Aufhängekapsel.) K. Henschen.

63 Choledochoduodenostomy. F. Sasse.
64 *Experimental Research on Surgery of the Lungs. E. Schepelmann.
65 Substitution of Segment of Vein. (Ueber Ersetzung eines Stückes der Vena cava inferior durch frei transplantirte Vena jugularis externa desselben Thieres.) E. Jeger and W. Israel.
66 *Advantages of the Whitehead Operation for Hemorrhoids: 223 Cases. S. Hadda.
67 Varices in Japan. (Häufigkeit der Varicen am Unterschenkel bei Japanern und der Erfolg einiger operativ behandelter Fälle.) K. Miyauchi.
68 *Hernias in 279 Cadavers. (Zur Casuistik der Hernien.) P. Bernstein.
69 *Direct Drainage of Ascites Into Saphenous Vein. (Die directe Dauerdrainage des chronischen Ascites durch die Vena saphena in die Blutbahn.) Döbbertin.
70 Fascia Lata for Plastic Operations. (Ueber die freie Plastik der Fascia lata.) H. Lucas.
71 Teratoma of Upper Jaw. (Fall von Teratom des Oberkiefers—Epignathus.) S. Goto.
72 Pathology of Undescended Testicles. (Pathologie der Hodenretention.) O. Uffreduzzi.
73 Cancer of Liver in Male Infant of Seven Months. (Fall von primären Lebercarcinom im Säuglingsalter.) G. Idzumi.
74 Hour-Glass Gall-Bladder. (Fall von grosser congenitaler sanduhrförmiger Gallenblase.) R. Toida.

61. Why Does Not the Stomach Digest Itself?—Katzenstein has been conducting research to answer this question, the results confirming the assumption that tissues used to the action of gastric juice become resistant to it by some process of adaptation. He found that it was possible to induce or check the digestion of a part of the intestine brought up into the stomach. This promoting or inhibiting action on the digestion of the implant was realized by modifying the food to stimulate or depress the production of gastric juice. A constant vegetable diet depressed the gastric secretion, and this same effect was obtained with injection of atropin, while the digesting process in the dogs was promoted by a single meal, consisting of meat. When a wisp of stomach, of duodenum tissue and of a lower loop of the small intestine were all drawn up and fastened in the stomach, the stomach tissue and the duodenum tissue were not destroyed by the gastric juice while the lower loop was invariably digested. The account of the extensive research is to be continued.

64. Experimental Surgery of the Lungs.—Schepelmann's experiments were carried out on rabbits without regard to the clinical availability of the methods applied, but certain of them have some bearing on the clinic so he reports them in detail. His results with division of the phrenic nerve in the neck were encouraging; by this means the apex of the lung is excluded from participating in the excursion of the rest of the lung and thus the procedure answers the same purpose as Freund's chondrotomy and artificially induced pneumothorax. His article is profusely illustrated and shows the effects of amputation of a lung, with or without phrenicotomy, as he calls division of the phrenic nerve. In other experiments he resected part of the diaphragm and found that this led to compression of the corresponding lung. The lung becomes immobilized and compressed by the pressure of the contents of the abdomen, and this resection of the diaphragm is a simple and easy operation on animals at least. His conclusions are that for mild apical processes not absolutely amenable to internal treatment, resection of the phrenic nerve in the neck might be considered as an extremely simple operation, perfectly well tolerated, which has the effect of immobilizing the lung on that side and at the same time inducing a tendency to thicken it.

66. Whitehead's Operation for Hemorrhoids.—Hadda summarizes the details of 223 cases in which he has applied this technic with eminently favorable results, and commends it as superior to all other methods for treating hemorrhoids. When it does not perfectly accomplish its aim, the trouble is that Whitehead's directions were not followed implicitly.

68. Hernia.—Bernstein has been examining 279 cadavers for the presence of hernia or predisposition thereto. Positive findings were obtained only in 25.8 per cent.; that is, in seventy-two cadavers, only twenty-one in this group being females. He discusses these findings from various standpoints.

69. Permanent Drainage of Ascites Into Saphenous Vein.—Döbbertin mobilizes the saphenous vein in the upper third of the thigh and draws it up through a passage made under the skin directly into the peritoneum, thus diverting the ascitic fluid directly into the circulation. He feared at first that blood would escape from the vein into the peritoneum, but found that this never occurred as the attraction of gravity aided in the evacuation of the ascitic fluid. The procedure is very simple and harmless, as he describes with several illustrations, and it is applicable not only where the Talma operation is indicated but also with stasis in the portal circulation, hypersecretion from carcinosis, inoperable ovarian tumors, etc. He regards it as a physiologic process, providing a passage back into the blood of the fluid which came from the blood. The fluid drains away at once after the operation without the necessity for waiting for a collateral circulation to develop, as with omentopexy.

Beiträge zur klinische Chirurgie, Tübingen

January, LXXXII, No 3, pp. 475-702

75 Influence on the Thyroid of Artificial Stenosis of the Trachea. A. Reich and Blauel.
76 Stenosis of the Trachea of Thymic Origin. E Hoeniger.
77 Ligation of the Carotid. (Zur Unterbindung der Carotis communis.) F. Smoler.
78 Congenital Inherited Ankylosis of the Interphalangeal Articulations. K. Morgenstern.
79 Wound Diphtheria and Diphtheroid. J. Zulleg.
80 Acute Pancreatitis F. v Faykiss.
81 External Supravesical Hernia. W. v. Steimker.
82 Lateral Ventral Hernia. W. v. Steimker
83 Typical Fractures of the Atrophic Femur. M. Brandes.
84 Cecum-Small Intestine Volvulus in Incarcerated Hernia. Syring.

Berliner klinische Wochenschrift

March 17, L, No. 11, pp. 477-524

85 *Progress in Treatment of Diabetes in Last Fifty Years. R. Lépine.
86 *Appendicitis in Scarlet Fever. (Zur Kasuistik der Epityphlitis bei Scharlach sowie der wiederholten Scharlacherkrankung.) O. Meyer.
87 Exclusion of Tuberculous Bladder. (Zur Harnblasenausschaltung wegen Tuberkulose) L. Casper.
88 Colon-Bacillus Suppurative Bladder Disease. (Klinische und serologische Untersuchungen bei Harneiterungen durch Bacterium coli.) T. Cohn and H. Reiter. Commenced in No. 10.

85. Progress in Treatment of Diabetes in Last Fifty Years.—Lépine regards as one feature of the progress the emancipation from the too exclusive conception of excessive production of sugar as the essence of diabetes mellitus. Progress in dietetic treatment has been mostly in the recognition of the value of oat meal and similar "cures," and the explanation that they act mainly by transforming the flora in the intestines. The microbes then oxidize part of the sugar formed in the intestines and thus supply the organism with ternary products and reduce the amount of sugar absorbed in the intestines. Drugs are often useful to respond to certain indications, like quinin when a tonic is needed, arsenic or strychnin to keep up the strength; antipyrin by mediation of the nerve centers may reduce the output of urine and of sugar. In the test-tube it acts directly on the liver cells. But on the whole, drugs display little influence on the diabetes itself, except sodium bicarbonate which is indispensable with acetonemia. He has given it by intravenous injection in a number of cases, but it is effectual only when it is given before the coma develops; afterward it may give more or less transient relief. By intravenous injection it acts more thoroughly than by mouth, as it suddenly disturbs the osmotic processes and is thus able to penetrate into the cells and neutralize the toxins directly. He always uses an isotonic solution of sodium bicarbonate. On account of the hydration of the organism a hypertonic solution might be dangerous. Diabetics should exercise but should always carefully refrain from getting fatigued to exhaustion. Especially with acetonemia, any fatigue is injurious. Operations on diabetics should be avoided as much as possible on account of the danger from the tardy action of the anesthetic, especially on the liver. With gangrene, superheated air baths (at 300 C.) twice a day for thirty or forty-five minutes will mummify the tissues and enable the amputation to be done under comparatively favorable conditions. With gangrenous phlegmons, however, not an hour is to be lost; amputation should be done at once and high up, the pus having a tendency to work through the tendon sheaths much higher than one would suppose possible. He adds that diabetes is becoming more frequent in certain cities, especially in Berlin, but the mortality is growing less as we understand better how to manage the cases.

86. **Appendicitis in Scarlet Fever.**—Meyer reports three cases of true appendicitis developing in the closest connection with scarlet fever or measles. In three other cases pneumonia developed with symptoms suggesting exclusively appendicitis, but the course of the cases revealed the true source of the disturbances and the pseudo-appendicitis subsided. In the first group, one child had the acute appendicitis as part of a typical scarlet fever, but it subsided under medical measures, dieting and staying in bed. Ten months later exactly the same syndrome returned anew, the typical scarlet fever and acute appendicitis, but the attack lasted only a few days. Meyer cites a few cases on record of second attacks of scarlet fever. Henoch has encountered only one case in his extensive experience, Heubner none, but Baginsky has reported a case with three attacks. Szontagh alone does not regard a second attack as very unusual, and Weissenberg has known of seven cases. Meyer remarks that it is possible that repeated attacks occur more frequently than supposed and escape recognition. It is possible that the febrile sore throat with general symptoms which the father had each time the children had their attacks of scarlet fever, may have been masked scarlatina. This was beyond question, he thinks, in another case in which the mother developed sore throat and high fever with albuminuria and earache after her children had had a siege of scarlet fever.

Correspondenz-Blatt für Schweizer Aerzte, Basel

March 1, XLIII, No. 9, pp. 257-288

89 *Etiology and Treatment of Osteomalacia and Rachitis. S. Stocker.
90 *Arteriomesenteric Occlusion of the Intestine. (Zur Kenntnis des arteriomesenterialen Darmverschlusses.) K. Bollag

March 15, No. 11, pp. 321-352

91 Differentiation and Importance of Arhythmias. (Die Erkennung und Bedeutung der Arhythmien.) (R. Stäbelin.

March 22, No. 12, pp. 353-384

92 *Psychic Anorexia at Puberty. L. Schnyder.
93 Changes of Shape of Tubercle Bacilli in Sputum. (Der Wechsel der Tuberkelbazillenformen im phthisischen Sputum. A. Kirchenstein.

89. **Treatment of Osteomalacia and Rachitis.**—Stocker reviews his experimental research based on the assumption that osteomalacia is the result of excessive or perverted functioning of the ovaries. He experimented with rabbits, calves and dogs, and implanted in the preperitoneal tissue ovaries from other animals of the same species, thus inducing an extra supply of the ovarian internal secretion. The results were negative in rabbits and he knows of no record of osteomalacia ever occurring in these animals. In the calf, signs of pronounced softening of the bones were evident in five months and in the dog, after implantation of testicles, the same picture of softening of the bones was soon presented. There seemed to be no doubt that the implants continued to secrete, and that thus the excess of hormones from the sexual glands influenced the metabolism to such an extent that the bones remained soft, that is, that the excess of hormones inhibited the ossification processes. The softening of the bones resembled in every respect the finding in rachitis and osteomalacia. These two affections must therefore be regarded as a consequence of hypersecretion of the genitals or of certain parts of them. We have no means to check the secretion of these glands, but we can counteract their action by supplying from without a larger amount of the antagonistic hormones, to restore the balance between the internal secretions. This has been realized by Bossi with epinephrin in osteomalacia; Bab has reported equal success with hypophysis extract, and Stocker himself obtained notable improvement in one case with thyroid treatment. If the extract of one of the organs with an internal secretion does not benefit, try another, he says. Until we are better informed, this empiric method of treatment is the only one at our disposal. Fraenkel reported in 1908 a cure of osteomalacia in a patient given the milk of a castrated goat. This was suggested by the benefit realized in exophthalmic goiter from the serum of thyroidectomized sheep: In consequence of the removal of the gland in question the antagonists secrete more of their hormones. As these circulate in the blood they can have a therapeutic action. The principle of treatment is therefore the same as the administration of an organ extract. Stern has also reported a case of osteomalacia in which this treatment gave fine results. Stocker has given the milk of castrated cows in two cases of rachitis; one patient was very favorably influenced and the other is much improved. He suggests that the serum of castrated bulls should be used for rachitis and osteomalacia in males.

90. **Arteriomesenteric Ileus.**—In the case reported by Bollag the arteriomesenteric occlusion of the intestine was chronic, that is, it recurred periodically, and he thinks that it was the result of the pronounced lordosis of the spine. While the patient was leading a normal life the condition caused only slight trouble at times, but gradually grew more chronic, the pressure from the stomach growing greater as also the traction on the root of the mesentery. This was revealed by occasional vomiting but as long as the patient was up and about the passage became permeable after the stomach had been relieved by vomiting. Then the patient fractured her femur and was confined to her bed for some time, the conditions then favoring total obstruction and the woman succumbed, deriving no benefit from postural treatment or other measures. The diagnosis of the case was made during life from the uncontrollable vomiting, the immense size of the stomach, the lack of pain, the small, rapid pulse with comparatively slight rise in temperature, the intense thirst, the severe general depression, the ileus, and the lack of distention of the lower abdomen. It is possible that a gastrojejunostomy might have saved the patient, but the general condition was too bad to permit this.

92. **Psychic Anorexia.**—Schnyder refers in particular to the passive and active anorexia at the age of puberty. He regards it as a more or less fundamental disturbance of the instinct of self preservation.

Medizinische Klinik, Berlin

March 16, IX, No. 11, pp. 397-440

94 Myopia and Its Treatment. M. Sachs.
95 General Principles for Treatment of Heart Diseases. M. Herz.
96 *Skin Diseases and Dietetics. (Ueber die diätetische Beeinflussung der Hautkrankheiten.) H. Hübner.
97 *Epinephrin in Treatment of Arthralgia and Neuralgia. (Ueber antiarthralgische und antineuralgische Wirkung des Adrenalins.) F. Gaisböck.
98 Serodiagnosis of Syphilis at Ophthalmic Clinic. (Die Luetinreaktion nach Noguchi bei Augenkrankheiten.) A. Löwenstein.
99 Atresia of the Duodenum. W. Weber.
100 Tests for Blood in the Stools. (Ueber die klinische Brauchbarkeit der üblichen chemischen Blutproben an den Faeces.) E. Schlesinger and J. Jagielski.

96. **Dietetic Influencing of Skin Diseases.**—Hübner says that the skin diseases of infants must be regarded from another standpoint than those of adults. The infant intestine is more permeable than the adult's, and eczema, especially the seborrheic type, is frequent in overfed, overfat babies. Fat seems to be the element of the diet that should be avoided in this case, and milk can be replaced by whey or buttermilk. According to the experience of many, eggs are not tolerated well by eczema children; some writers advise sterilizing the milk to check bacterial action in the intestines. Even those who deny a connection between eczema and the diet must admit that the folds in the skin under the joints of these overfat babies invite eczema, and thus reduction of the food is useful from this standpoint if from no other. Finkelstein's idea that eczema is due to excess of salt in the food has less to sustain it. In any event, external measures are of great importance, and Hübner protests against the fear of "driving in the eczema" by external treatment. All the cases on record of alleged "eczema death,"

he says, have proved to be due to other, easily explainable causes. The masters insist unconditionally on local treatment of the eczema; the cases published as "fatal driving in of the eczema" were cases of "thymus death" or heart failure or fulminating sepsis occurring in children who happened to have eczema at the time. Regulation of the diet is useful also in strophulus infantum, along the same lines as in eczema, reduction of the total amount, addition of cooked fruits to the diet, and possibly mild laxatives. The mere change from too exclusive meat diet to a more predominantly vegetable diet will often suffice alone. Prurigo, on the other hand, occurs in children who are insufficiently fed or tuberculous, and the diet must be of a strengthening nature. Any attempt to reduce it or to make it mainly vegetable can do only harm. Urticaria in adults is frequently traceable to a certain article of diet, but no other skin affection in adults shows such a connection although the laity generally assume this for seborrheic acne and ask for something to "purify the blood." There is more sense in avoiding fats and especially fats with a low melting point as liable to solidify and clog the sebaceous glands, particularly mutton fat. No benefit seems to have been derived from diet in psoriasis, but with pruritus ani it is well to refrain from spices, pepper, etc., liable to irritate as they are passed with the stools. Even tea and coffee are liable to prove irritating in this way. Jessner has reported cases in which the pruritus vanished on abstention from tea and coffee. They evidently irritate the nerve terminals and hence should be avoided in all skin affections accompanied by itching, and particularly in senile pruritus.

97. **Epinephrin in Neuralgia and Arthralgia.**—Gaisböck reports the details of seventeen cases out of a more extended experience in which prompt and durable benefit was derived from adrenal medication. He gave a subcutaneous injection of 1 c.c. of 1 to 1,000 solution of epinephrin (adrenalin, Parke-Davis) repeating the dose until 24 c.c. had been injected in the first case. The results observed confirm the assumption that adrenal medication has a favorable, even a curative, influence on inflammatory processes in joints, more or less independent of their special origin, and neuralgic affections also are favorably influenced by it. This opens up a new field for therapeutics with epinephrin, interesting alike for the practitioner and the theorist. In its action in this respect epinephrin takes rank as an antineuralgic, and it is interesting that certain antineuralgics have also an influence on asthma, probably from the regulation of the circulation which they induce. This is sufficient to explain the favorable action of epinephrin in osteomalacia, in asthma and in the arthritis cases. The magic way in which the epinephrin relieved a patient with osteomalacia first suggested to Gaisböck its use in neuralgia and arthritis. The typical cases of the latter described were in adults from 16 to 72, in fourteen of the cases the trouble was acute arthritis, in two others sciatica; distinct improvement was evident after a few injections. No benefit was derived by two girls with arthritis possibly due to sepsis, and no influence was apparent in the cases of deforming arthritis. No lasting untoward by-effects were observed in any instance, and nothing to suggest that the coagulating power of the blood had been increased. In four cases of ordinary polyarthritis the patients recovered without complications; in two others there were signs of fibrous pericarditis from the start.

Monatsschrift für Kinderheilkunde, Leipsic

XI, No. 11, pp. 545-620

101 *The Care and Treatment of Infants in Institutions. (Erfahrungen und Gedanken über Anstaltsbehandlung der Säuglinge.) A. Schlossmann.
102 Action on Human Milk of Shaking Up. (Wirkung der mechanischen Erschütterung auf die Frauenmilch.) S. Engel.
103 Influence of Artificial Pneumothorax on the Mechanism of Respiration in Children. (Einfluss des künstlichen Pneumothorax auf die Atemmechanik des Kindes.) R. P. van de Kasteele.
104 Infant Mortality in 1911. (Die Säuglingssterblichkeit im Grossherzogtum Mecklenburg-Schwerin 1911.) H. Brüning

101. **The Care and Treatment of Infants in Institutions.**—Schlossmann took charge of the infants' asylum in Düsseldorf in 1906. For a period of four years preceding that time the admissions had been 165, deaths 118, showing a mortality of 71.5 per cent. For the five years following the admissions were 238, deaths 40, mortality 16.8 per cent. In the children's hospital of Düsseldorf for the past five years there have been 1,284 admissions with 317 deaths, or 24.69 per cent. Seventy per cent. of these died within a week after admission, showing how extremely bad their condition was on admission. He concludes that institutions do not necessarily have a bad effect on the health of infants—that there is no such thing as "hospitalism." There are four factors that enter into the production of the condition so-called: insufficient or inefficient medical attention and nursing, bad surroundings and insufficient or improper feeding. The head physician's entire time should be devoted to the institution and he should be always on call. The importance of good nursing should be recognized and abundantly provided for. Sick children should be immediately transferred to the hospital, where everything is arranged for the care of the sick. In this way too the spreading of contagion is avoided. The building should be well lighted and well ventilated and provided with sleeping-porches, so that as much time as possible is spent in the open air. Some children on admission are too far gone to be saved by any food; others can tolerate only breast milk. For those who can bear artificial feeding at all, he thinks diluted cow's milk with a little milk sugar added is the best food. The most important point to determine is how much the child can take. A child that cannot take small quantities of half milk can probably not stand any artificial food. In institutions where the most careful attention is given to medical supervision, nursing, hygienic surroundings and feeding, the death-rate can be kept as low as or lower than that in the community as a whole. Needless to say sufficient financial support must be given to render such care possible, and to secure such support the public must understand and sympathize with the needs of its unfortunate children.

Münchener medizinische Wochenschrift

March 18, LX, No. 11, pp. 569-624

105 Metabolism of Albumin in Fever. (Die Stellung des Eiweisses im Stoffwechsel des fiebernden Menschen und ihre theoretische und praktische Bedeutung.) E. Grafe.
106 *Chronic Appendicitis. A. Krecke.
107 *Utilization of Forces of Respiration in Treatment of Scoliosis. H. Spitzy.
108 Mechanism of Development of Slanting Pelvis. (Die Entstehungsweise übermässiger Beckenneigung.) J. Fränkel.
109 Pylorospasm K Glaessner and S. Kreuzfuchs.
110 Ferments in Serum of the Insane (Zur Frage des Vorhandenseins spezifischer Schutzfermente im Serum von Geisteskranken) A. Fauser
111 Unreliability of Dialysis Technic for Serodiagnosis of Pregnancy. (Zur biologischen Diagnose der Schwangerschaft.) E. Engelhorn.
112 *Advantages of Phenolsulphonephthalein Test for Kidney Functioning (Die Nierenfunktionsprüfung mittels des Phenolsulphonphthaleins.) F. Fromme and C. Rubner.
113 Polyps in Rectum or Sigmoid Flexure. (Ueber gutartige Polypen des Mastdarms und des S. romanum.) Decker.
114 Serodiagnosis of Syphilis Applied to Cerebrospinal Fluid. (Anwendung der Hermann-Perutzschen Reaktion bei der Prüfung von Lumbalpunktaten.) F. Lade.
115 *Mushroom Poisoning by Inhalation. (Auch eine "Pilzvergiftung.") Dreisbach.
116 Serodiagnosis of Syphilis. (Ist die Ausführung der Brendel-Müllerschen Reaktion durch den praktischen Arzt empfehlenswert?) A. Pöhlmann.
117 Psychoneuroses R Neupert. Commenced in No. 10.

106. **Chronic Appendicitis.**—Krecke seeks to distinguish true appendicitis from the syndrome induced merely by dread or imitation. After the illness or death of a prominent person from appendicitis, many persons apply to physicians claiming to have symptoms of appendicitis; the so-called familial appendicitis, is probably, he thinks, an epidemic from suggestion. In chronic appendicitis he has frequently found that there must have been some acute phase at some time which escaped recognition, the patient being treated for typhoid, dysentery, etc. Another fact he has learned from experience is that the appendix can return to an entirely normal condition after acute inflammation. He has been reexamining lately twenty patients whose appendices were removed over at least a year ago. All but five patients were women. The symptoms

indicated chronic appendicitis and yet nothing pathologic could be found in the appendix. Fully 85 per cent. were entirely cured by the appendicectomy but three state that their former disturbances still continue. The trouble must have been a more general bowel affection, not restricted to the appendix region. In seventy cases of chronic appendicitis traced to date, he found that 70 per cent. of the patients had been cured by the operation but no relief had been experienced in 30 per cent.; the appendix was diseased only as part of a more general disease of the large intestine. The symptoms presented by this latter group of patients were pains in the right iliac fossa, not very violent but radiating to other parts of the abdomen, with disturbances in defecation and tenderness in the right iliac fossa with resistance and roentgenoscopic delay in the digestion in the cecum. Another feature which suggests that more of the intestine is involved than merely the appendix, is the character of the pains which are a sense of oppression or discomfort rather than the boring or stabbing pain of appendicitis. With appendicitis the pains are localized in the iliac fossa while with colitis they spread over the entire abdomen and are more constant than with appendicitis. Exacerbation from physical effort and from menstruation speaks more for general bowel trouble; the pains of appendicitis are generally independent of external influences. Constant tenderness at McBurney's point speaks for chronic appendicitis while constant tenderness at other points is a sign of chronic disease elsewhere. He adds that with chronic appendicitis, especially the recurring form, there is frequently no tender point anywhere. A resistance in the ileosacral region indicates participation of the colon as also constipation, intestinal fermentation and admixture of mucus with the stools. This colitis can be either the consequence or the cause of chronic appendicitis. If the disturbances improve under physical and dietetic measures, appendicitis can generally be excluded. A tendency to nervous disturbances also speaks against a localized appendicitis. In any event, the patient should be examined several times, and with special regard to the psychic behavior; with other symptoms of hysteria or neurasthenia one should be guarded with the diagnosis of chronic appendicitis. If you learn that the patient has a special dread of appendicitis or there has been a case in his immediate circle of acquaintances, the diagnosis should be even more reserved. In such cases it is better to say "I do not find anything just now suspicious of appendicitis. But I advise you to send for a physician at once if the pains increase in intensity."

107. **The Forces of Respiration in Treatment of Scoliosis.**—Spitzy here describes how best to utilize the forces of gravity and of respiration in treatment of scoliosis, in which Abbott seems to have led the way. He has applied Abbott's method in fourteen cases in the last six months and states that the results were "much, much better" than with any other method tried in the course of many years. His article is a preliminary to Abbott's presentation of the subject at the approaching German orthopedic congress.

112. **Phenolsulphonephthalein Test for Kidney Functioning.**—Fromme and Rubner state that intramuscular injection is liable to give misleading findings. They regard the test as important but reliable only when the intravenous technic is followed. With this from 60 to 65 per cent. of the drug is eliminated by healthy kidneys in three hours, and usually the proportion eliminated is much larger in this period, even up to 90 per cent. in some cases.

115. **Mushroom Poisoning.**—Dreisbach has encountered several cases of epidemic headache and joint pains with fever and other signs of severe infection, following close on a few days of thrashing. He is convinced that the trouble is due to the dust from mushrooms or moulds in the dust thrown up by the thrashing machine. Mere irritation from indifferent dust could not explain the severe symptoms observed.

Wiener klinische Wochenschrift, Vienna

March 13, XXVI, No. 11, pp. 401-444

118 *Milk Differentiation of Spastic Strictures in Stomach and Duodenum. (Ueber das Verhalten verschiedenartiger Strikturen im Magen und Duodenum bei Milchdiät.) S. Jonas.
119 *By-Effects with Salvarsan from the Glass of the Vials. (Durch Alkaliabgabe des Glases bedingte toxische Nebenwirkungen nach intravenösen Salvarsaninjektionen—Glasfehler.) R. Matzenauer.
120 The Skin Reaction in Syphilis and its Relation to the Wassermann Reaction. (Die Hautreaktion bei Lues und ihre Beziehung zur Wassermannschen Reaktion.) R. Müller and R. O. Stein.
121 *From the Seat of War. (Kriegschirurgische Erfahrungen vom montenegrinisch-türkischen Kriegsschauplatz.) O. Heinz.
122 Seaside Sanatorium for Children. (Dauererfolge und Schicksale von im Seehospize zu Triest 1896-1903 behandelten Brunner Kindern.) E. Homa.
123 *Tabes in the Young. H. Barkan (San Francisco).
124 *Choice of Occupation with regard to Tuberculosis. (Fürsorge bei der Berufswahl mit Rücksicht auf die Tuberkulose.) L. Teleky.

118. **Diagnosis of Spastic Strictures in Gastro-Intestinal Tract.**—Jonas calls attention to the fact that a stricture in the stomach or duodenum is modified by restriction to a milk diet just as the underlying lesion is modified. That is to say, strictures from scar tissue, adhesions or tumors show no change, while spastic reflex strictures from the irritation of an ulcer subside on a milk diet as the exposed nerves escape irritation when the food is restricted to milk, and hence the reflex spasms cease to occur. When the symptoms of the stricture subside on a brief restriction to milk, the assumption of a causal ulcer is justified. Negative conclusions, that is, persistence of the stricture phenomena on a milk diet are not conclusive as to the non-existence of an ulcer. Roentgenoscopy before and during restriction to milk gives instructive findings. He allows the patient only milk or cream cheese until the milk with six-hour intervals is borne without pain. Then roentgenoscopy is applied again and if the signs of the stricture have subsided, the assumption of an ulcer as the cause of the previous stricture is justified. He does not keep up the milk diet longer than a week. When there is no residue in the stomach after six hours, during this milk course, the diagnosis of a causal ulceration is the more probable the larger the amount of residue before the restriction to milk, and the shorter the interval before it disappears.

119. **By-Effects From the Glass in Giving Salvarsan.**—Matzenauer ascribes to the action of alkali from the glass in the vials certain by-effects observed during intravenous injection of salvarsan. He thinks that this "glass error" is responsible for certain untoward effects in salvarsan treatment.

121. **From the Seat of War.**—Heinz was in charge of a Red Cross expedition to Montenegro, and describes his surgical experiences in 159 cases. The men had been wounded mostly in outpost skirmishes. Among the wounded were seven women. Five had been injured at one time by shrapnel as they were bringing supplies to the front. He states that this task was in the hands of the women and it was no uncommon sight to see supply wagons in trains miles long, driven only by women and children. Fully 60 per cent. of the twenty cases with shrapnel wounds went on to suppuration.

123. **Tabes in the Young.**—Barkan reports from Fuchs' clinic three cases of tabes in children of 9 to 16, comparing them with three others in the children of one family in which the father was syphilitic, the mother apparently free from syphilis. Only one case of juvenile tabes is on record with necropsy findings, which indicates that the young are resistant. Atrophy of the optic nerve has developed in 80 per cent. of the cases on record and the Wassermann reaction is positive in a much larger proportion than in adults. The Romberg sign and ataxia are less frequent in the children. Mercury does not arrest the progress of the tabes but seems even to have accelerated it in some cases. It seems wisest to place such children in a blind asylum early, where they can be trained in work for the blind before their vision is entirely lost.

124. **Choice of an Occupation from the Standpoint of Tuberculosis.**—Teleky expatiates on the lack of participation of physicians, as a rule, in the solving of the great sociologic problems, when they are the very ones who should take the lead in social hygiene. A very important task in this line is the guidance of the wage-earning youth in the choice of a trade. He insists that wage-earning should not begin before

the age of 16, and that the change from school to trade should not be sudden and complete but there should be a period of gradual adaptation. The state should provide manual training institutions where at least the predisposed and the weakly should be gradually habituated to work. Kaup demands for every wage-earner under 18, restriction to ten hours' work, including the free hours, at least three half days a week for physical training and athletics, and a two-weeks vacation every year. But still more important is the necessity for consultation with a physician before starting in on any occupation. Even under present conditions much could be accomplished by medical advice as the children leave school.

Zeitschrift für Kinderheilkunde, Berlin

VI, Nos. 1, 2 and 3, pp. 1-252. Last indexed March 15, p. 873

125 *The Eruption in Measles. (Das Bild der Masern auf der äusseren Haut.) C. v. Pirquet.
126 Abdominal Purpura. (Zur Frage der Purpura abdominalis—Henoch.) R. Lederer.
128 *No Reflux of Pancreatic Juice Into the Stomach of the Infant. (Zur Frage des Rückflusses von Pankreassaft in den Magen des Säuglings.) A. Reiche.
129 The More Active Metabolism of the Child. (Der grössere Stoffverbrauch des Kindes.) M. Kassowitz.

125. **Distribution of the Skin Eruption in Measles.**—Von Pirquet studied forty-six cases of measles with a view to determining the distribution of the eruption and its causes. He marked the exanthematous areas from day to day and the figures are reproduced in his article. He concludes that the eruption is an antitoxic reaction to the organisms causing the disease, which are located in the capillaries. The organisms are agglutinated and the eruption appears when the capillaries of a given region become saturated with antibodies. This saturation takes place first in the regions having the most abundant blood-supply, such as the mucous membranes and the regions near the heart and large blood-vessels. Gradually the organisms are removed from the circulation by agglutination. By the time the parts with a less abundant blood-supply, such as the elbows, feet and nates, have developed sufficient supply of antibodies, there are no longer any organisms to agglutinate; therefore those parts show no eruption. The monograph has 456 illustrations from his original drawings, fourteen other illustrations and eight colored plates.

128. **No Pancreatic Juice in the Infant's Stomach.**—It has been demonstrated that in the adult there is a flow of pancreatic juice into the stomach. Reiche made tests with twenty-three children from six weeks to one and one-half years of age to determine whether the presence of pancreatic juice in their stomachs could be demonstrated. It was not found in any case so there normally can be no digestion of fat and albumin in the stomach by the aid of the pancreatic juice.

Zentralblatt für Chirurgie, Leipsic

March 22, XL, No. 12, pp. 417-456

130 *Absorption by the Pleura. (Ueber Pleuraresorption.) Boit.
131 *Management of *Pyelotomy* Wound. (*Wie soll man die Pyelotomiewunde behandeln?*) R. Bastianelli.
132 *Disadvantages of Exclusion of the Appendix. (Ausschaltung des Wurmfortsatzes.) F. Steinmann.

130. **Absorption by the Pleura.**—Boit injected saline into the pleural cavity of dogs, with or without 1 per cent. of some stain, or olive oil, to study the power of absorption. Almost immediately after injection of the fluid on one side, it was evident in the other side, and it proceeded to accumulate slowly in the lower portions of the pleural cavity. A few minutes after injection into the right pleura of 50 c.c. of the stain, the entire pleural cavity on the other side was stained a deep tint with it. The lymphatics convey rapidly the fluid into the mediastinum, and the lymph in the thoracic duct was already stained when it was opened twenty minutes after injection of the stain. The experimental findings suggest the possibility that in clinical cases infection of one pleura may be transmitted to the other side by way of the mediastinum.

131. **The Wound After Pyelotomy.**—Bastianelli declares that the incision in the kidney pelvis will heal without suturing unless there is some obstruction in the ureter or very severe infection, and if the wound is not too large or has not ragged edges. At the same time he does not advise systematic refraining from suture. A flap of the adipose tissue drawn up over the incision will protect it. When it is difficult to draw up the kidney he does not loosen up the adipose tissue but cuts directly down on the stone and does not attempt to suture the wound as the fat closes over it and renders a suture unnecessary. It is important to refrain from injuring the fat and to leave a layer intact to draw over the wound.

132. **Exclusion of the Appendix.**—Steinmann reports a case to show the possible evils of leaving the appendix *in situ* after severing it from the cecum, suturing the stumps separately. The part of the appendix close to the cecum was apparently normal in his case, but the rest was impacted in the midst of an inflammatory tumor in which the ileum, omentum and median wall of the cecum were soldered together. The case seemed particularly adapted for exclusion of the appendix as Kofmann has recently recommended, and this was done with exceptional ease, but the previously chronic process flared up into acute inflammation, the appendix perforated, and a fecal concrement further complicated the case, compelling a speedy second laparotomy.

Zentralblatt für Gynäkologie, Leipsic

March 22, XXXVII, No. 12, pp. 409-448

133 *Resection of Promontory to Enlarge the Pelvis. (Verfahren zur Heilung enger Becken.) E. Gerstenberg.
134 *The Crossed-Hands Maneuver to Aid Delivery. (Ein neuer Handgriff—Kreuzgriff—bei Entbindungen.) O. Krug.
135 Primary Sarcoma of Small Intestines. R. Patek.
136 Primary Gastric Cystosarcoma. H. Kondring.
137 *Proportions of Males and Females Born. (Ueber das Verhältnis der Geschlechter.) M. Hirsch.

133. **To Enlarge a Contracted Pelvis.**—Gerstenberg has tried on twenty-three cadavers Rotter's method of chiseling off the promontory to enlarge the internal diameter of the pelvis. This experience has convinced him that the special field for this operation is in connection with artificial premature delivery, and that the method should not be attempted with a true conjugate of less than 8.5 cm. Rotter advocates it for a true conjugate down to 7 cm., and thinks that it will render premature delivery unnecessary.

134. **The Crossed-Hands Maneuver to Facilitate Delivery.**—Krug calls attention to the remarkable force that can be exerted when the hands are placed back to back after crossing them, the backs of the hands serving thus as the levering point for pushing with the fingers. He utilizes this force to spread the articulations of the pelvis as they loosen up during the labor pains, thus magnifying the natural stretching. He introduces his three middle fingers deep into the vagina, down to the inner surface of the right tuberosity of the ischium, the forefinger of the right hand on the ascending ramus of the right tuberosity of the ischium, the middle finger on the edge of the obturator foramen and the third finger on the great sacrosciatic ligament. The fingers of the left hand are introduced in the same way, the hands thus crossed ready to push at the height of the labor pain. As the force is applied only transversely to the pelvis, and as the entire pelvis is slightly lifted up at the same time as the woman lies across the bed with legs spread and slightly pendent, there is not much danger of injury.

137. **Proportions of Males and Females at Birth.**—Hirsch has been surprised to note the unusually large proportion of male fetuses among those in the abortive and premature delivery cases. They far outnumber the females, and he thinks there can be no doubt that the male fetus is more susceptible to injury, including the trauma at birth, than the females, and also that the male fetuses far outnumber the female, irrespective of those that come to normal birth. The proportion of males is larger the shorter the interval since conception. He urges others to study this subject as his findings suggest a new biologic phenomenon of the greatest importance for predetermination of sex and for embryology in general. In order to bear weight hereafter, research on the proportions between the sexes must not be restricted to the children born

but should take into account the sex proportions in embryos. He urges institutions to compile data on this subject, classifying the cases with the length, weight and signs of development of the fetus or embryo; the sex (with young embryos microscopic examination may be necessary); age of the parents; their health (syphilis, nutritional disturbances, heart, kidney or gynecologic disease, deformities and alcoholism); occupation (whether the mother is employed or not); industrial diseases; residence (city or country); food and housing conditions; number of preceding childbirths and abortions (age, health and sex of the children), and, finally, the cause of the death of the fetus. He thinks that compilation of data along these lines will be a great advance toward solving the question of predetermination of sex and other biologic problems.

Policlinico, Rome

March 23, XX, No. 12, pp. 401-436

138 Headache of Thyroid Origin. (Sull' esistenza di una forme di cefalea di origine tiroidea.) G. Bilancioni.

Riforma Medica, Naples

March 15, XXIX, No. 11, pp. 281-308

139 Physiopathology of the Adrenals. III. (Fisiopatologia delle capsule surrenali in rapporto al morbo di Addison ed alle sindromi surrenaliche.) P. Castellino.
140 Action of Ultraviolet Rays on Cholera and Plague Germs. A. Schiavone and G. Trerotoli.
141 *Acid-Fast Bacilli in the Blood-Stream. (Osservazioni e considerazioni sulla presenza di bacilli acido-resistenti nel sangue circolante.) A. Fagiuoli. Commenced in No. 10.

141. **Tubercle Bacilli in the Blood.**—Fagiuoli remarks in this report of research on the presence of acid-fast bacilli in the blood-stream, that of the thirteen clinically non-tuberculous patients examined with positive results, one had an attack of tuberculous pleuritis four months afterward. He does not regard the acid-fast bacilli in the blood as a sign of active tuberculosis nor as a certain sign of impending tuberculosis, nor as of much import for the diagnosis from any point of view. The bacilli in the blood show that the individual is infected, but whether the bacilli will find lodgment and a chance to proliferate is another question. There did not seem to be any connection in his experience between the numbers of the bacilli and the gravity of the tuberculous process; he found them frequently quite numerous in the incipient cases and very scanty in the well developed. He remarks in conclusion that the new light thrown on the presence of acid-fast bacilli in the blood-stream does not reduce the importance and necessity for the prophylactic measures against tuberculosis already in vogue, but it shows still more urgently than ever the importance of means to enhance the resisting powers of the individual. His findings were constantly positive in seventy-five patients with pulmonary tuberculosis in various stages and in five of six patients with surgical tuberculous lesions, also in thirteen of twenty persons apparently free from suspicion of tuberculosis. He found the acid-fast bacilli also in the urine of four of five tuberculous patients examined, and in two of five apparently free from tuberculosis. The acid-fast bacilli were also constantly present in the pleural effusion from the four patients examined, and in three out of four cases they were discovered in pus from a tuberculous process. Also in the stools from six tuberculous patients. The bacilli thus found constantly in the tuberculous and in 65 per cent. of the non-tuberculous examined were inoculated into guinea-pigs—a total of twenty-six animals—with the result that four of the nine animals inoculated with blood from tuberculous patients and one of the four inoculated with blood from a non-tuberculous individual developed tuberculosis.

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142 *Cancer in the Jejunum and Ileum. (Om primär kräfta i jejunum och ileum.) B. Carlson.
143 *The "Blotting Paper" Capillary Test for Gastric Secretion. (Om s. k. kapillaranalys af magsaft enligt dr I. Holmgren.) K. Mattisson.
144 *Complications from Roentgenoscopy of Kidney Pelvis. (Fall af pyelografi, där kollargol inträngt i njurens urinkanaler och Malpighiska kroppar.) A. Troell.
145 *Local Anesthesia by Aid of Electricity. (Lokalanästesi medelst katafores.) M. Lundgren, A. Schele and B. Svedin.

142. **Cancer in Jejunum and Ileum.**—Carlson adds seven more cases to the forty-three compiled by Schlieps in 1908. Two of the seven new cases were in Carlson's own practice. He discusses the comparative frequency of malignant disease at this point and tabulates the details of the total fifty cases. In fifteen the conditions were too far advanced for operative relief; palliative operations were done in fifteen cases and resection in twelve cases. One of Mikulicz' patients lived afterward for over seven years and one of Schede's for over a year, dying then from pneumonia. In Carlson's resection case the patient is still in good health after six months. Sörensen's patient lived three years after a merely palliative entero-anastomosis. Carlson insists that an exploratory laparotomy is imperative whenever a person is constantly losing flesh without known cause, whether at the cancer age or not, and there is a fixed pain in the abdomen and constipation alternates with diarrhea and there are attacks of colic or slight ileus. The great danger with cancer in the jejunum or ileum is its slow course; immediate danger does not seem impending and as transient benefit is realized from care in dieting, further measures are postponed until too late.

143. **The Blotting-Paper Test for Gastric Acidity.**—Mattisson's conclusions from extensive tests of Holmgren's technic for estimation of the free acid in the stomach content are unfavorable to the reliability of the method. The chances for error are too great and the information afforded too meager.

144. **Complications from Radiography of Kidney Pelvis.**—Troell says that Zachrisson and Jervell have each reported a case of decided injury from a test injection of collargol into the kidney pelvis for radiography. He has also had a case of the kind in his own experience, as he describes in detail, but has been unable to find records anywhere else of similar occurrences. In his case the kidney was removed afterward and it showed that the 7 per cent. solution of collargol, injected to cast a shadow, had penetrated into the parenchyma of the kidney and worked its way into the space between the glomeruli and their capsules. This was the more remarkable as only 6 or 7 c.c. had been injected and the injection had been made very slowly and under weak pressure. The ureter catheter had been introduced for 20 cm. and the patient complained of pain when this amount had been injected so the injection was suspended at once. The patient was a woman of 64; a suppurative process involved part of the kidney, which was removed next day, but the silver salt had backed up into the canaliculi and malpighian bodies even in the sound half.

145. **Local Anesthesia by Aid of Electric Current.**—Lundgren and his coworkers tabulate the findings in a number of cases in which they induced local anesthesia by cataphoresis, sending into the tissues a 10 per cent. solution of novocain in an epinephrin solution (adrenalin). The anesthetic is dropped on a piece of filter paper folded three or four thick or the paper was first impregnated with the solution. The paper pad is cut the size of the electrode and the continuous current was applied at a tension of 110 volts. They give an illustration of the arrangement of the regulator, etc., found most convenient, and state that complete local anesthesia was thus realized in four cases in ten minutes with a current of one milliampere, the anesthesia lasting for an average of sixteen minutes. With a current of two milliamperes, complete anesthesia was induced in eight instances in five minutes and it lasted for an average of eighteen minutes; with two milliamperes in ten minutes in nineteen cases and it lasted for twenty-seven minutes on an average. The sensibility was only partially reduced in seven other cases while in twelve others there was very nearly but not quite total anesthesia. Further experiments with a 5 per cent. solution of cocain in the epinephrin solution answered the same purpose, the anesthesia lasting for an average of thirty minutes, but the skin showed signs of irritation. The novocain proved equally effectual but without any signs of irritation of the skin. They made twenty applications of the cocain and fifty of the novocain solution. The paper pad with the anesthetic was placed under the positive round electrode covering an area of about 3 sq. cm. the other electrode was held in the patient's hand.

The Journal of the
American Medical Association
Published Under the Auspices of the Board of Trustees

Vol. LX, No. 18 CHICAGO, ILLINOIS May 3, 1913

MYCETOMA IN AMERICA

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KANSAS CITY, MO.

Although mycetoma, or Madura foot, was described by Kaempfer[1] in 1712, its occurrence, or rather its recognition, in America is of quite recent date. Of the cases originating in this country, that described by Adami and Fitzpatrick[2] is probably the first. Their patient was a French Canadian, 21 years old, a native of Montreal who had never been outside of Canada. Parkes' patient[3] had previously resided in India, and in the case described by Kemper and Jameson[4] the course of the disease was so rapid and the pain so great that, in the absence of corroborative microscopic evidence, a diagnosis of mycetoma may safely be excluded. In the example reported by Hyde and Senn[5] the patient was a dental student, 20 years of age, a native and resident of Iowa. Artwine and Lamb's[6] case occurred in a Mexican laborer, 45 years old, and Pope and Lamb's[7] patient also was a Mexican laborer, aged 27. The fifth, and last, American case that I have been able to find a record of is the one on the study of which Wright[8] largely based his admirable contributions to the subject of mycetoma. The patient was an Italian woman, 26 years of age, on Dr. H. H. A. Beach's service at the Massachusetts General Hospital.

The two following cases of Madura-foot disease have recently been under observation in Kansas City:

Case 1.—The patient, A. D., laborer, single, aged 24, was an employee of the Missouri Pacific Railway Company, and was referred to my associate, Dr. J. P. Kanoky, the company dermatologist. Dr. Kanoky being absent from the city, I diagnosed and treated the case, and am indebted to him for permission to report it. The patient is a native of Padua, Mexico, and formerly resided at Aransas Pass, Texas. He has never before suffered from a skin disease, and the cutaneous history of his family also is negative.

Present Illness.—Three years prior to the time of consultation, while walking barefooted across a pasture, the patient stepped into a depression in the soft ground that had been left by an old mule track, and at the same time sustained a slight punctured wound of the sole of the left foot, beneath the arch. He thinks that the wound was probably made by a cactus thorn. The lesion gave rise to but little pain or inconvenience, and was almost forgotten until about a month afterward, when a small, hard lump appeared beneath the skin at the site of the injury. The tumor was incised, but no pus escaped, and no foreign body could be discovered. The tumefaction gradually increased, however, until the depression beneath the arch was replaced by a large, boggy swelling. There was little or no associated pain. In the course of about fourteen months, a minute, oval opening appeared near the site of the original wound, and small amounts of "grainy," yellowish pus escaped. Since then, a number of other openings have developed, until, at present, there are a hundred or more scattered over the sole and sides of the foot. At no time has the pain been severe. A feeling of fulness is present occasionally, especially in cold weather, but the patient did not entirely cease work until the spring of 1912.

Examination.—The patient was a slight, nervous man, 5 feet and 4 inches tall, and weighed 124 pounds. The skin on parts other than the left lower limb was normal and unscarred. There was no response to a von Pirquet application of tuberculin, and the Wassermann serum test was negative. A radiograph, made by Dr. C. F. Martin, showed the bones to be apparently normal. The affected foot was greatly swollen and misshapen, the deformity being principally confined to the region of the instep. The circumference of the left foot at this point was over 50 cm., while the right measured only 27 cm. The dorsal surface of the affected part was almost constantly covered with large drops of perspiration, the plantar surface being dry or only moderately moist (Fig. 1). The right foot was normal in this respect. There was some tenderness on deep pressure, but fluctuation could not be obtained. The sinus openings were about the diameter of an ordinary pin, many being capped by a round or oval, reddish or brownish, tightly adherent crust (Fig. 2). Small amounts of yellow, fish-roe-like matter, suspended in an oily, puriform fluid, could be squeezed out of the majority of the sinuses. The fungi, which morphologically were identical with those found in the ochroid variety of mycetoma, were easily found in this expressed material and in the crusts after thorough soaking in a solution of potassium hydroxid. Cultures of the organism were not so readily secured, however, our experience in this regard coinciding with that of previous observers. Even scrapings from the sides of two of the canals, removed by means of a small, sharp spoon, after thorough anesthetization of the part with cocain, failed to prove productive. Repeated attempts on the part of Dr. W. K. Trimble, Dr. Frank Hall and myself having been without result, it is very probable that no viable organisms will be secured until the foot is opened and fresh, moist material, which has not been exposed to the action of antiseptics, is obtained.

For histologic study, a small piece of tissue was excised from the sole of the foot at the outlet of one of the sinuses. The material was stained with hematoxylin and eosin, alone and in combination, methylene-blue (Unna-Pappenheim), Weigert and Gram-Weigert. The prickle-layer was somewhat increased in thickness, with many open spaces between the cells. Some of these intercellular cavities contained polymorphonuclear leukocytes, round cells, and, occasionally, a granular deposit which stained with eosin. The grains, or

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[1] Kaempfer: Amaenitum exoticarum, Lemgoviae, 1712, iii, 561; cited by Scheube, Die Krankheiten der warmen Länden, 1903, Ed. 3, p. 735.

[2] Adami and Fitzpatrick: Tr. Assn. Am. Phys., 1895.

[3] Reported by Hyde: A Practical Treatise on Diseases of the Skin, Phila., 1888, p. 496.

[4] Kemper and Jameson: Am. Pract. and News, 1876, p. 577.

[5] Hyde and Senn: Jour. Cutan. Dis., 1896, p. 1.

[6] Artwine and Lamb: Am. Jour. Med. Sc., 1899, cxviii, 393.

[7] Pope and Lamb: New York Med. Jour., lxiv, 386.

[8] Wright: Jour. Boston Soc. Med. Sc., 1897, ii, 128; Tr. Assn. Am. Phys., xiii, 471; Jour. Exper. Med., 1898, p. 422; Buck's Reference Handbook of the Medical Sciences (under Actinomycosis), 1900, i, 101; Publications of the Mass. General Hosp., Boston, 1905, i; Osler's System of Modern Medicine, 1907, i, 344.

"druses," were irregularly scattered through the corium in the neighborhood of the sinus. Under the low power, these bodies appeared as rounded, oyster-like masses, the central and pericentral portions of which stained fairly well with hematoxylin, and the outer zone of which reacted to eosin only. Histologically, the bodies consisted of a central, granular appearing portion, with radiating mycelial threads which extended almost to the periphery, the entire mass being encompassed in a glassy, hyaline shell. The separate filaments stained so faintly that it was not possible to ascertain, with any degree of accuracy, whether or not either branching or segmentation was present. The tissue changes in the immediate vicinity of the druses were such as one might expect to find in a chronic inflammatory process of this nature—vascular generation and dilatation, the latter often accompanied by endothelial proliferation, with connective tissue and epithelioid infiltration of the vessel walls, and collections of plasma and epithelioid cells in the cutis, together with occasional giant cells.

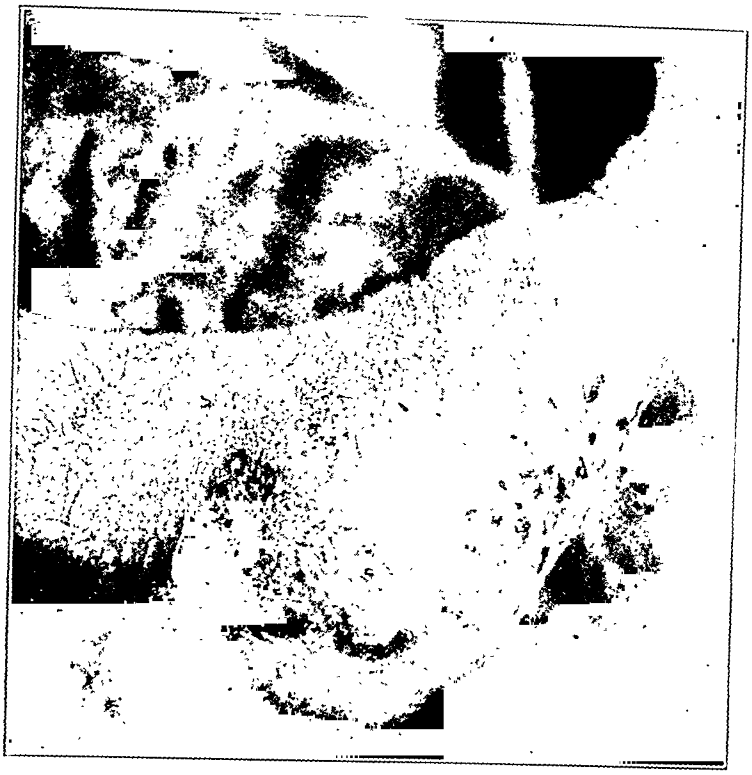

Fig. 1—Case 1.—Character of deformity and distribution of sinuses. The dorsal surface of the foot and the ankle are covered with perspiration.

Treatment.—In the districts where Madura-foot disease most frequently occurs, it has been found that the only successful treatment is amputation of the affected part. In this instance, however, the patient refused operation, and we were compelled to resort to other measures. Of these, dependence has been placed, for the most part, on remedies which have proved helpful in the treatment of actinomycosis. Potassium iodid, in gradually increased doses, copper sulphate, 0.02 gm., in water, after each meal, as originally suggested by Bevan,[9] and the *x*-rays, as recommended by Stelwagon[10] and by Zeisler.[11] Locally, various preparations of iodin have been employed. After two months of treatment along these lines, the foot is somewhat less swollen than at first, but the degree of improvement is very slight.

Case 2.—The patient, J. H. C., married, housewife, aged 23, was under the care of Dr. John W. Perkins, of this city, and was treated by him. It is through his courtesy that I am enabled to include the history in this report. The patient was a native resident of Texas. Her cutaneous history and that of her family were negative. She had never gone barefooted, but frequently bathed in a stream where many cattle drank. Dr. Perkins first saw the patient Sept. 5, 1906. Nine years previous to that time, a horse had stepped on her left foot, but the skin apparently was not broken. About one year after this accident, several small excrescences appeared near the base of the great toe and discharged slightly. These nodules gradually increased in size and number, and the foot became greatly swollen (Fig. 3). The pain was more or less constant, and quite severe. In 1902, an incision was made and some of the metatarsal bones were scraped. This procedure was repeated in 1904, but at that time appeared to aggravate the condition. On September 6, Dr. Perkins opened the foot, and removed the second toe and the second metatarsal bone. The sinuses were cauterized with a Paquelin cautery and dry dressings applied. A bacteriologic examination made at this time, by Dr. Frank Hall, showed the *Streptothrix madurae* to be present in large numbers. The after-treatment consisted of thorough cleansing with solutions of hydrogen peroxid and potassium permanganate, and the injection into the sinuses of iodoform emulsion. November 12, the third, fourth and fifth toes were removed, and the lesions on the dorsum of the foot curetted and dressed with iodoform (Figs. 4 and 5). A small sinus just anterior to the internal malleolus was incised, and cauterized with nitric acid. Iodin was injected into the drainage tubes for a fortnight. The patient was sent home late in December, with the lesions on the dorsal surface of the foot healed, and only a slight ulcer remaining on the inner surface of the ankle, where the nitric acid had been applied.

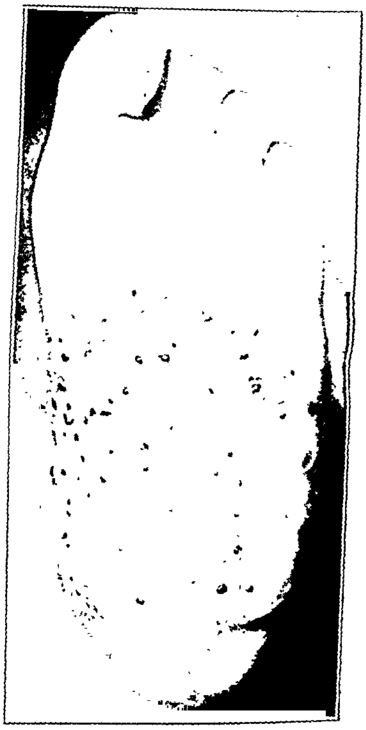

Fig. 2—Case 1.—Sinus openings on sole. Many are capped by round or oval, tightly adherent, brownish crusts.

Dr. Perkins did not see the patient again until September, 1907. At that time there was a small ulcer on the inner side of the instep, a second just beneath the arch, and a tiny, blister-capped sinus 2 inches back of the fourth metatarsophalangeal articulation. There was no pain, and only slight tenderness on deep pressure. No fungi could be found in the discharge. The sinuses were again cauterized, and dressed with a 5 per cent. solution of phenol (carbolic acid). Later, an iodoform emulsion was injected daily. The patient returned home November 26, her condition apparently much improved. Seven months later, she again applied for treatment. After reaching home, she had walked on the foot, and had suffered very little inconvenience in any way until April, 1908, when a constant, throbbing pain developed and gradually increased in severity. In May, she was compelled to use crutches. At the time of examination, she was unable to place her foot on the floor. Several sinuses had ruptured on the dorsum and sole of the foot, and on the sides of the ankle. A blood analysis made July 12, 1908, showed: Hemoglobin, 100 per cent.; erythrocytes, 5,600,000; leukocytes, 25,900, with a differential count of: Polymorphonuclears, 69.3 per cent.; mononuclears, 18.5 per cent.; small lymphocytes, 4.5 per cent.; transitionals, 3.1 per cent.; eosinophils, 3.3 per cent.; basophils, 0.6 per cent.

A bacteriologic report, received from Dr. Edward N. Tobey, of Harvard University, Sept. 2, 1908, read as follows: "Cultures made from specimen received show fine radiating growths giving the characteristic puff-ball appearance of *Streptothrix madurae.* Microscopic examination shows long, branched filaments, some with club-shaped ends."

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[9] Bevan: Treatment of Actinomycosis and Blastomycosis with Copper Salts, The Journal A. M. A., Nov. 11, 1905, p. 1492.

[10] Stelwagon: Diseases of the Skin, W. B. Saunders & Co., Phila., Ed. 6, 1910, p. 1111.

[11] Zeisler: Tr. Am. Dermat. Assn., 1906, p. 104.

The foot was amputated in July, and the stump healed promptly and smoothly. Cross-sections made before hardening the tissues showed that the sinuses followed the tendon sheaths, and were filled with a soft, gelatinous material which, in most instances, had entirely replaced the tendon. The tendons that remained were soft and atrophied.

The fact that both of the patients whose histories are here recorded were in the habit of living active, outdoor lives in a subtropical country is of interest. In a statistical study of one hundred cases of mycetoma, Bocarro,[12] of the Hyderabad Medical School, found that 91 per cent. of the patients were tillers of the soil, and that the remaining 9 per cent. spent the greater portion of their time barefoot in the open air (boatmen, porters, beggars, etc.). Eight of the patients were females, seven being the wives of agriculturists. The disease occurred most frequently between the ages of 21 and 40. Crocker[13] states that a history of previous attack of guinea-worm disease is often present, but Bocarro found that the causative organism most frequently gained entrance through the wound left by a thorn prick. While the disease usually affected the feet, other exposed parts, especially the hands and the knees, occasionally were attacked.

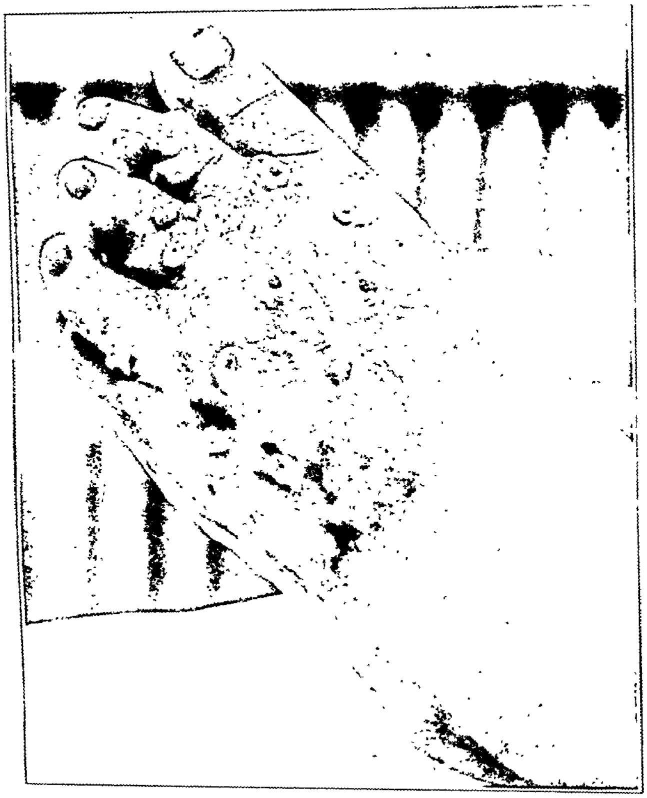

Fig. 3—Case 2.—Condition of dorsum of foot at time of first examination (courtesy of Dr. John W. Perkins).

Clinically, mycetoma may be divided into three varieties, the yellow or ochroid, the black and the red, so named because of the color of the small masses or granules suspended in the oily, seropurulent discharge from the sinuses. The ochroid is the most common type, while the red is exceedingly rare. Except Bassini's[14] Italian case, I can find no record of the occurrence of either the black or red forms outside of India.

Bacteriologically, the consensus of opinion would indicate that the yellow and the black, the two varieties that have been most exhaustively studied, are due to different organisms. Jackson[15] has found that the ochroid organism, when grown in association with pyogenic cocci, on steamed potato, will sometimes, after a month or two, take on a rose color, or even a red color. It may be that this explains the origin of the much-discussed red growths of the streptothrix isolated and studied by Vincent[16] and, later, by Gémy and Vincent.[17]

Vandyke Carter,[18] to whose masterly monograph we owe much of our knowledge of this disease, believed that the pale particles represented an evolutionary stage of the same organism found in the black variety. Kanthack[19] studied three cases of the black form and twelve of the yellow, and concluded that both were due to the same fungus, an actinomyces. Boyce and Surveyor,[20] while acknowledging the similarity of the organism found in these two varieties of mycetoma and in actinomycosis, believe that the two forms differ distinctly in etiology. They examined seven cases of the black type, and found the particles to consist of a brown pigment-substance, readily removable in Javelle water, and containing a large, branching, septate fungus. No organisms of fructification were observed. In Adami and Fitzpatrick's[2] case, the fungi were identical in general appearance with actinomycetes but the clubs were much larger. Oppenheim,[21] who obtained his material from the Tametsee Djidjisbhoy Hospital in Bombay,

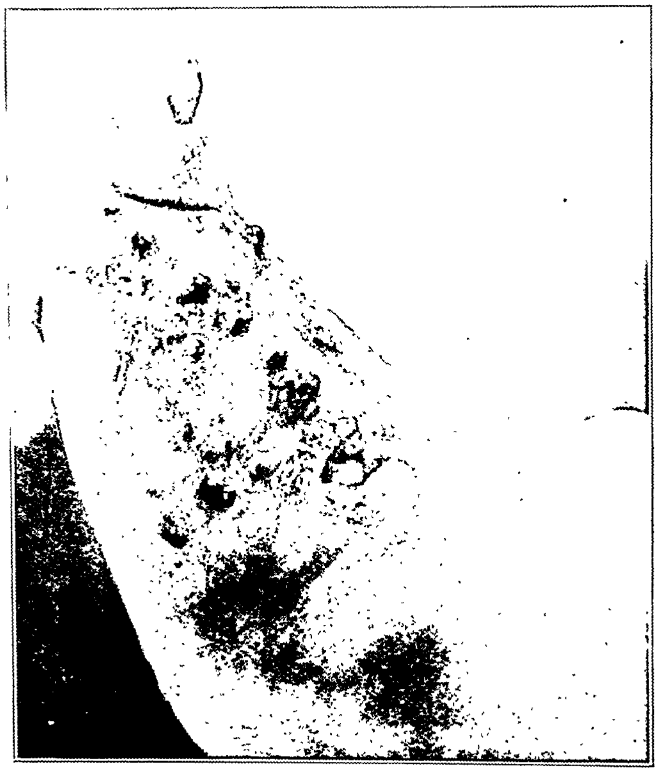

Fig. 4—Case 2.—Condition of dorsum of foot at time of amputation, July, 1908 (courtesy of Dr. John W. Perkins).

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[12] Bocarro: Lancet, London, Sept. 30, 1893, p. 797.
[13] Crocker: Diseases of the Skin, P. Blakiston's Son & Co., Ed. 3, ii, 1348.
[14] Bassini: Arch. per le sc. med., 1888, p. 309.
[15] Jackson: Tropical Medicine, P. Blakiston's Son & Co., Phila., 1907, p. 490.
[16] Vincent: Ann. de l'Inst. Pasteur, 1894, p. 129.
[17] Gémy and Vincent: Ann. d. Dermat. et de Syph., November, 1897, vii.
[18] Carter, Vandyke: Mycetoma or the Fungus Disease of India, Churchill, London, 1874.
[19] Kanthack: Jour. Path. and Bacteriol., 1893, p. 140.
[20] Boyce and Surveyor: Tr. Royal Soc. London, 1894.
[21] Oppenheim: Arch. f. Dermat. u. Syph., 1904, lxxi, 209.

made a comparative histologic and bacteriologic study of the yellow and black varieties. Clinically, and in their main histologic features, he found them very similar, in fact, practically identical. In the yellow form there was apparently a somewhat greater tendency to connective-tissue proliferation, while in the black type abscess formation and liquefaction were more prominent features. Bacteriologically, however, the two conditions were very dissimilar. The organism from the yellow variety he believed belonged to the actinomyces group, while that isolated from the black was more of the nature of an odium.

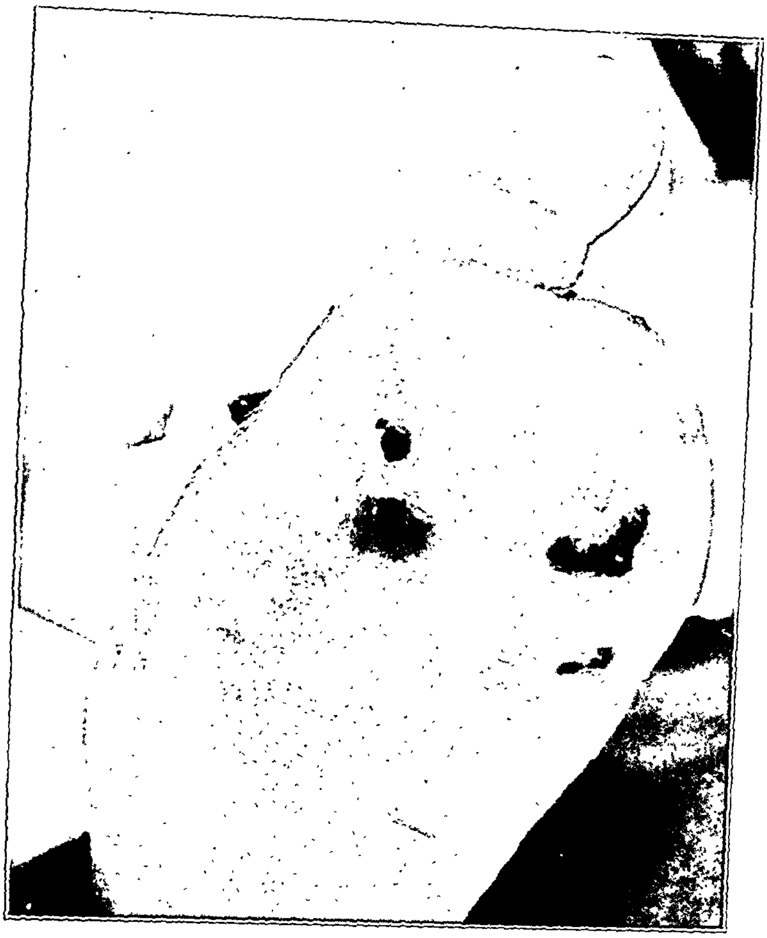

Fig. 5—Case 2.—Condition of sole at time of amputation, July, 1908 (courtesy of Dr. John W. Perkins).

Wright found that the granules in the yellow variety were composed of microorganisms from the streptothrix group, to which the actinomyces is now generally thought to belong, and not to the more highly organized hyphomycetes. He considered it not unlikely that many of the ochroid cases were nothing more nor less than actinomycosis.

Unna,[22] in his work on actinomycosis and its possible relation to Madura-foot disease, found that the causative fungi in the two affections, while resembling each other culturally and morphologically, possessed marked tinctorial differences, the actinomyces, when first fixed by anilin xylol and then decolorized with anilin, staining readily with acid fuchsin, while the adult *Streptothrix madurae* was affected but little, or not at all, by prolonged contact with this dye.

Later Unna and Delbanco[23] again investigated the subject, both from a histologic and bacteriologic standpoint, and finally arrived at conclusions coinciding, in the main, with those which Unna reached in his first research.

McLeod[24] believes that Vincent's streptothrix is the etiologic agent in the yellow variety of mycetoma, and that this organism is allied to, but differs from, the actinomyces.

The black species of Madura foot he thinks is due to a degenerate form of the same fungus.

One of the most recent and valuable investigations that has been made regarding the etiology of mycetoma is that of Musgrave and Clegg.[25] Their material was obtained from a typically clinical case of the ochroid variety, of three years' duration, in a Filipina woman, 30 years old. With an organism which they isolated, and to which they gave the name *Streptothrix freeri*, they performed inoculation experiments on forty monkeys, guinea-pigs, rabbits, dogs and pigeons. In three instances, typical examples of Madura foot developed in monkeys after the injection of cultures of the organism into the tissues of the foot. On the other hand, in no instance was a progressive disease produced by inoculation into other parts of the body.

Variations in the color of the granules were occasionally noted, and in one instance, in which the subject was a monkey (*Cynomolgus philippinensis* Geoff), a fair number of small, black granules were produced in the tissues following a subcutaneous inoculation of the organisms.

The statement, which has often been repeated, that the ochroid variety of mycetoma is actinomycosis is not supported by the weight of evidence in the literature, and is positively disproved by the results of Musgrave and Clegg's work.

As these investigators conclude, it is probable that all types of mycetoma are due to streptothrix infection, but whether all forms are caused by an infection with the same organism, or whether more than one species plays a part in the disease cannot at this time be stated positively.

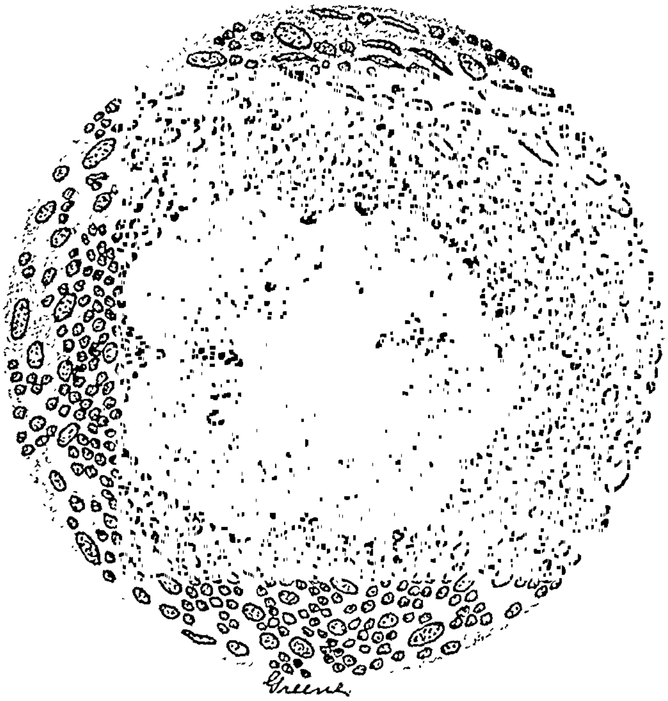

Fig. 6—Case 2.—Organism with surrounding zone of cellular infiltration (drawing by Dr. Marie Green; courtesy of Dr. John W. Perkins).

610 Commerce Building.

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[22] Unna: Deutsch. med. Ztschr., 1897, p. 49.

[23] Unna and Delbanco: Monatsch. f. prakt. Dermat., 1900, xxxi, 545.

[24] McLeod: Allbutt's System of Medicine, Ed. 2, 1907, ii, 754.

[25] Musgrave and Clegg: Philippine Jour. Sc., December, 1907, ii, No. 6, Sec. B.

SHATTERING OF FEMUR WITH EXTENSIVE COMPOUND INJURY OF SOFT PARTS

RECOVERY WITHOUT OPERATION WITH USEFUL LIMB *

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PITTSBURGH

History.—The patient presented is a man, aged 26, whose thigh was crushed July 10, 1912, by a fall of slate in a mine. The femur was comminuted, split, and the fragments displaced in a grotesque manner throughout almost the entire length of the shaft, as shown by the *x*-ray plate (Fig. 1). Extensive injuries to the soft parts at the lower third of the thigh, with large openings extending to the fragmented bone, had caused such great loss of blood at the time of the accident that on admission he was almost pulseless, with sighing respiration, and apparently about to die.

Treatment and Course.—The cavities in the thigh were packed with iodoform gauze by my assistant, Dr. N. P. Davis, to whose assiduous care and judgment, during the first night, when the patient was delirious, restless and practically pulseless, the favorable outcome of the case should be ascribed. The treatment consisted of intravenous infusion of physiologic salt solution; camphor, strychnin and morphin hypodermatically; and enteroclysis, with elevation of the foot of the bed.

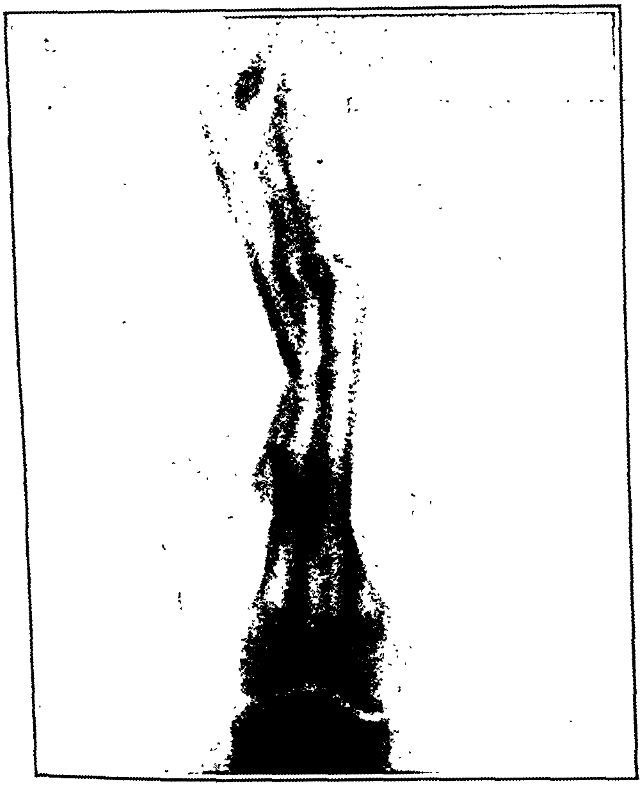
Fig. 1.—Shattered femur with extensive compound injury of soft parts.

Nothing was done to the limb at first except to renew the aseptic external dressings as they became saturated with the serous discharge from the packing. No fragments were removed nor was any exploration of the wounds made. The limb was supported as well as possible between sandbags.

Improvement in the general condition of the patient began on the following day, but did not justify his removal to the *x*-ray room until the tenth day, when the first plate was made. A Buck's extension was applied on the fifteenth day, with full abduction to carry the comminuted fragments of the shaft as

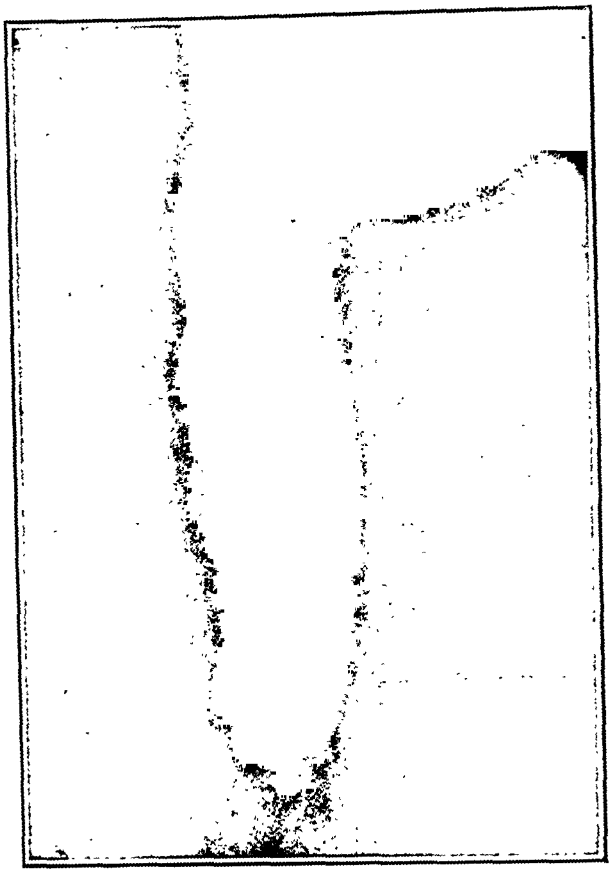
Fig. 2.—Shattered femur (five months after injury) showing fusing of fragments together and with callus.

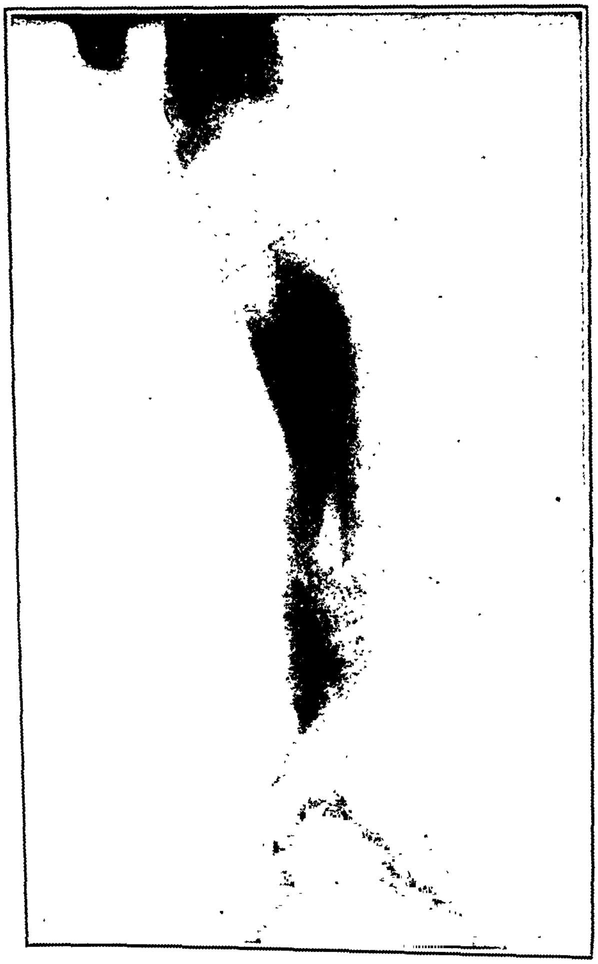
Fig. 3.—Shattered femur (seven months after injury).

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*Patient exhibited at meeting of Surgical Section, Allegheny County (Pa.) Medical Society, Dec. 10, 1912.

nearly as possible into line with the short uppermost fragment. The original packing remained in place forty-seven days. Granulations gradually filled the cavities; the limb became firmer, and to-day the man walks well without crutch or cane and has but 1¼ inches shortening.

The second plate (Fig. 2) was made Dec. 18, 1912, and shows the fusing of the fragments together and with the callus, the absorption of the projecting spiculae and the zigzag direction of the bone. It shows, however, that the center of gravity is transmitted properly through the bone and this accounts for the symmetry and strength of the limb.

This patient was seen February 19 when the plate reproduced in Figure 3 was made. He walked with hardly a perceptible limp and his limb seemed about as straight and appeared fully as strong as its fellow. A photograph, reproduced in Figure 4, was taken at this time. The patient stated that he walks 3 miles at a time without discomfort. The last sinus had been closed more than a month.

The history of this case illustrates:

1. The marvelous power of Nature in the restoration of function to a bone apparently hopelessly shattered.

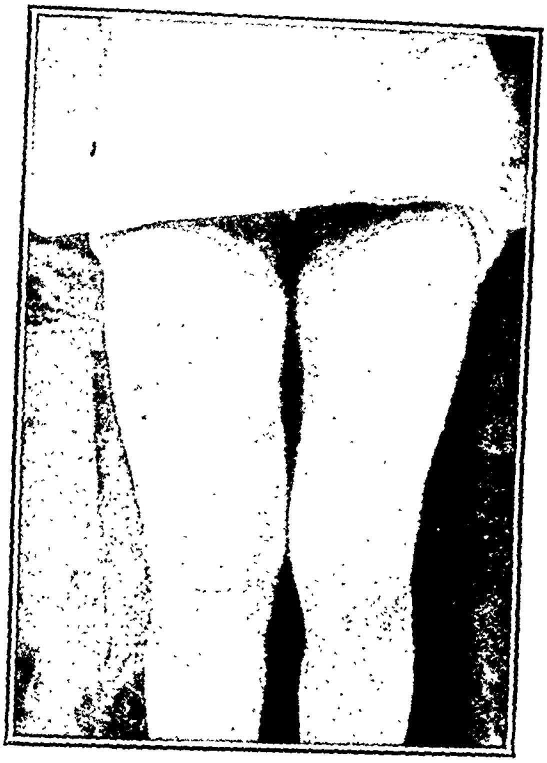

Fig. 4.—Legs of patient with shattered femur (seven months after injury). Note straightness of leg.

2. The advantages of the Fabian policy in wounds with inaccessible depths and unknown tendencies to infection.

3. The fallacy of the belief that satisfactory function cannot follow unless fractures are anatomically adjusted.

Child Labor and Oysters in Mississippi.—The state of Mississippi considers her human resources even less significant than her sister state, Louisiana. In five years the state has spent approximately $162,000 to replant depleted oyster reefs. Yet to this day, with 2,600 manufacturing establishments alone, and an average of nearly 51,000 wage-earners, Mississippi has not provided a single penny for factory inspection. There is a child-labor law in Mississippi, which provides that no girl under 14 years and no boy under 12 shall be employed, but there is no one in the state whose sole business it is to see that the law is enforced. If the sheriff has visited the canneries as he is "empowered" to do, he missed the ninety-three children between 6 and 14 years of age whom I found actually at work in four Mississippi oyster canneries.—E. F. Brown, member Nat. Child Labor Com.

MODERN STEAM STERILIZATION*

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We live in a hygienically strenuous period. If we consider the history of hygiene for the [illegible] years, we may admire the great progress which has been made in most civilized countries in the sphere of infectious diseases of every kind. Most of the epidemics that used to decimate mankind, such as variola, plague, Asiatic cholera, yellow fever, typhoid fever and diphtheria, have to-day largely lost their terror.

To the modern generation maladies which in our youth seemed matters of course appear as if they belonged to the remote past. As a young man I saw the mighty typhoid fever epidemics in our country, especially in Munich, my native town, which formerly decimated the population; to-day typhoid fever has diminished as I have been told by a clinical friend, until there is not sufficient typhoid fever material for the clinical lectures.

It has required hard work to produce this effect in face of the rapidly increasing size of our large towns. A tour, not only through a typical large city of Germany, but also through many of the smaller cities, proves how unceasing the work there has been, and how by means of sanitation, water-supply, public cleanliness, the improvement and embellishment of dwelling houses and rooms, and the building of modern hospitals, we have striven without interruption to maintain the health of the people, the most important feature of a nation.

By means of scientific hygiene combined with the technical progress of sanitary engineers, all governments and all communities have worked unremittingly to complete this important task. The cause of hygiene has also been strengthened by legislation. The German nation and its representative, the German Reichstag, passed at first a law against the adulteration of food. Pettenkofer, the great hygienist, and A. W. Hoffman, the great chemist, by untiring effort achieved this success. Later the laws guarding against the dangers to health to which the workmen in factories, foundries, mines and other industrial institutions are subjected, the laws for the protection of women and children, and at last the wonderful social achievement—the social laws—were passed by the Reichstag. As an example of their beneficent effect, during the year 1906 more than 140,000 accidents in industrial and agricultural pursuits were followed by judgments for indemnity. More than a million persons received indemnities, either as injured persons or as survivors of persons killed, and the sum total of the indemnities exceeded 140 million marks.

The indemnity from the imperial invalid insurance during the year 1906, including the imperial contribution, may be estimated at about 160 million marks. During the first fifteen years of the existence of the invalid insurance, indemnities to the amount of more than 1,200,000,000 marks were paid. The expenditures by all the sick funds of Germany for physicians, medicine and pecuniary compensation in 1905 amounted to 232 millions marks, and at present about a million marks are spent every day for the social laws. As a result of the social laws, there comes the increasing need of hospitals. The services of physicians are to-day much more in demand than formerly, because the sick fund is paying all expenses and the progress in building hospitals and in their equipment is well known. We hope in the future to build more convalescent hospitals in the [illegible] towns, because it is desirable, in the opinion of our hospital physicians, to prolong the treatment in many cases.

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* Delivered before the Harvey Society of New York, Oct. 5, 1912.

The influence of the social laws on the diminution of the mortality of the people is important and beyond doubt. Disease is no longer the sword of Damocles suspended over the happiness of the people, no longer the unavoidable cause of the decay of a family. How much grief and sorrow is stilled! The millions spent for the health of the people are not only a hygienic necessity and a compulsory contribution given by humanity, but also good business. The prophylaxis and protection of health is always cheaper than the loss of national fortune by sickness and epidemics. We cannot rest in our hygienic work. Every day brings new problems, and we must strive to win new means for combating the dangers to the public health.

DISINFECTION

Progress even in practical affairs cannot always be expected from technic only; it springs chiefly from a foundation of theoretical knowledge. The evolution of hygiene as a science has given a most important impulse to all modern scientific work. Scientific knowledge is always the shortest way to any practical progress.

The immense success in combating infectious diseases we owe, first, to Robert Koch, by whose research and methods the most important agents of human infection have been discovered and their peculiarities recognized. But many other things, the discussion of which would lead us too far, have helped, in our country at least, to contribute to this great success.

Among the means of combating the infectious diseases, one has always been considered very effective, namely, the destruction of infectious material by disinfection.

This fundamental idea of disinfection is as old as the conception of living contagions, which in turn is many centuries old. Whoever is interested in historical studies will be able to find in ancient hygienic literature, besides many superstitions, many and even important precursors of our modern disinfecting methods. We know that in some parts of the world during the great pestilences in the middle ages not only were the patients isolated, but also the walls were disinfected according to established measures—which have come down to us—by means of milk of lime, the floors by means of washing with wood-lye.

In 1772 Plency published a theory concerning the etiologic influence of microorganisms and the rise of infectious diseases which agrees surprisingly with our modern views on the subject. Experiments were made, although incompletely, with chemical agents as means of disinfection. It would be unjust not to acknowledge the importance of the scientists of that time as pioneers of rational means for combating diseases. A good many interesting facts concerning this subject may be found in a book by Hermann John Pringle, general physician of the English troops that fought in Flanders, Holland and Germany in 1743-1744.

In 1780 the famous chemist, Lavoisier, in a publication on prisons recommended the disinfection of clothes by means of highly heated air, and of rooms by vapors of muriatic acid by a method indicated by de Merveau in 1773. He also recommended clothes of linen and cotton, as being less attractive for the infectious agents than wool. On the whole, the theory of infection then remained the same for almost a century, no considerable progress being made.

Up to the seventies of the last century dry heat was still the only means for disinfecting clothes and similar things; for the disinfection of rooms fumigation with chlorin and sulphurous acid were still the methods most in use. The means of disinfection by solutions had been considerably improved by the discovery of phenol (carbolic acid) and mercuric chlorid (corrosive sublimate), but even their action was not beyond doubt. Their great importance for practical medicine and for prophylaxis was first recognized by Lister in his application of an antiseptic method. The cleaning of infected materials with solutions of phenol for the destruction of infectious agents was recommended and used in various diseases. But there was not yet any certainty in the procedures and results; empiricism had not given sufficiently clear information.

The modern doctrine of disinfection, which is based on the peculiarities of the infectious agents, did not arise until the eighties, when Robert Koch and his assistants made the first systematic experiments and learned the considerable difference between the disinfecting influence against spores and that against vegetative forms of the infectious agents. Koch then wanted disinfection to kill all infectious agents, and that is still the effect which is expected from really good disinfecting methods, although we know nowadays that pathogenic germs rarely form spores.

Heat was now placed in the first rank of effective agents of disinfection; I mean not only the boiling of clothes, etc., which had been used long ago—but heat in some form of closed apparatus which was filled with steam. The application of steam for heating foodstuffs had first been introduced into Germany by one of your countrymen, Benjamin Thompson, who was born near Boston, May 26, 1753; he lived for a long time in Munich, where he was made Count Rumford. He is well known as a physicist, especially for his work on the theory of heat; and he was a student of nutrition and of social problems.

Koch showed that steam is excellent for disinfecting articles of any description—bedding, clothes, etc. The disinfecting apparatus is a big reservoir which can stand some pressure of steam and through which the steam passes. By this method the air is heated quickly, and after it has reached a temperature of 100 C. (212 F.) all living germs are killed in the shortest possible period of time.

DEVELOPMENT OF STEAM DISINFECTION DURING RECENT YEARS

In the beginning steam disinfection was purely empiric, and it remained on this basis for a good many years. The procedure of using steam under pressure with temperatures above 100 C., and the use of superheated steam were soon given up. A current of steam with or without some pressure was always returned to. Steam without pressure was preferred for cheaper apparatus, for small hospitals, etc.

Progress by means of natural science requires study of the theoretical foundations. This was neglected for a long time in the doctrine of steam disinfection. The powerful action of the steam was explained by most persons as due to its great conduction of heat; others, Sambur, for instance, said that for the purpose of disinfecting any object its pores must be filled with water; otherwise no success could be expected.

It should be noted that there are two kinds of steam, saturated and unsaturated. Saturated steam can be produced at any temperature below 100 C. by lowering of the barometric pressure, by working in a partial vacuum, and above 100 C. by raising the pressure and the tension of the steam. Unsaturated steam is produced by heating steam which leaves a boiler above the temperature inside the boiler. Wet linen does not dry in saturated steam; superheated steam has the same influence as dry air—it dries wet linen in a very short time. This shows that physically it makes a difference whether saturated steam or superheated steam is used. This difference had never been considered. The more that steam is superheated the more it approaches the character of warm atmospheric air. The theoretical considerations were all based on practical disinfecting methods. This was a grave mistake.

CHEMICAL AND PHYSICAL ACTION OF STEAM

It is my opinion that in steam disinfection two things must be carefully separated: first, the action from a chemical and physical point of view of the steam on the object; second, the action of the steam on the infectious agents. I have examined these two points separately. The first question was: Does steam act as a means of disinfection only if it condenses in the pores of the object? This hypothesis, although believed in by many, is entirely wrong. The disinfection is successful even if there is no condensation of water at all. The condensation of water as fluid is in most cases not even necessary in order to heat the objects. The hypothesis of Sambur is based on the mistaken assumption that objects are warmed only if there are visible droplets of water. Let us consider this physical aspect of heating.

Bunsen constructed a so-called steam calorimeter, a closed reservoir which is filled with steam at 100 C. temperature, and into which we may put any object, a ball of copper for instance, of a certain lower temperature; the water condenses at once on the cold ball and drops into a glass underneath. At the end of the experiment we see from the quantity of water how much heat the ball has lost.

Disinfection by steam is not generally applied to metallic objects; it is used mostly for textiles of wool, silk, linen, cotton, feathers, hair, etc. If these materials are used for the same experiment as the copper ball we see that they do not even become moist, and consequently there will be no drops of water in the glass. From this we assume that in this case the mode of heating must be quite a different one. I am going to give a more detailed explanation of this process later; at this moment it is sufficient to know that there may be disinfection without perceptible condensation of water.

Another important fact to note is that the beneficial influence of steam disinfection is exercised only on objects with large *open* pores; these objects are quickly disinfected. Here we notice the strong action of the steam, which is superior to that of dry heat; this was first described by Robert Koch. In objects without pores the heat spreads only slowly, by conduction.

The power by which the steam enters is the difference between the specific gravity of the steam and that of the air in the pores of the materials which are to be disinfected. This fact has been recognized by Walz, Gruber, Clarenbach, Frosch and Teuscher. Consequently the heating takes place as in steam-heating—the light steam enters the pores and the heavier air escapes outward. That is why the steam should always enter the apparatus at the top, while air and steam should leave it at the bottom. But this explanation of the process of steam disinfection is not sufficient. We know that in spite of the usual time of disinfection and although the thermometer shows a temperature of 100 C., in a good many cases insects, like fleas and roaches, will leave the disinfecting apparatus still more lively than when they entered it.

The reasons for this are as follows: Exactly as in heating rooms by steam, the steam in some parts may meet air which cannot give way, and then finds an enormous resistance. These parts remain cold. It is possible, too, that some parts may become impenetrable to the steam owing to moisture on the surface—this happens chiefly in the case of linen and cotton textiles. As a result of special researches I have calculated the time which is necessary for heating different materials by steam to 100 C.—when they are heated only by conduction. A ball of woolen cloth, the surface of which is impenetrable to steam, with a radius of 5 cm., takes three hours before the temperature has risen to 100 C. in the center; a ball of 25 cm. takes eighty hours; one of 50 cm takes 325 hours. This proves the necessity of porosity.

I found another still more interesting fact; the temperature in the center of an object which is put into steam of 100 C. may rise far above 100 C.—I even measured 147.5 C. (297.5 F.). It is easy to perform this experiment. Take a skein of wool with a radius of 105 cm. and put a thermometer in its center. Then heat the skein for some time for instance in dry air of 100 C. or in cold dry air, and after this put it in a steam chamber; the temperature will rise to from 140 to 147 C. (from 284 to 296.6 F.). This simple experiment is of great importance for the theory of steam disinfection, especially for the mode of heating objects.

The explanation of this is as follows: All materials that attract water, that is, hygroscopic materials, including all sorts of clothes and linen, cover themselves with water; this, however, is not visible and perceptible but is held loosely by the objects, as for instance the water of crystallization. Our clothes always contain hygroscopic water in proportion to the percentage of humidity in the air. This improves the conduction of heat, and I found that by absorption of 1 gm. of water at an ordinary temperature that 75 degrees C. in calories of heat are set free. Added to this there is the heat produced by the absorption of steam, so that the heating by steam, as shown above, may be considerable. One has to consider that wool may contain up to 30 per cent. of hygroscopic water, silk a little less, and the vegetable fibers still less.

If now we return to the experiments with steam disinfection we can easily understand the enormous heat in the more compact materials. On account of the high temperature the center of the masses contains not saturated, but unsaturated steam. This overheating will not take place if the material is loosened, as the fibers cool quickly after having once come into contact with the steam at 100 C. These experiments give us important hints as to the way in which the material ought to be exposed in the steam-disinfection apparatus. It must be well loosened and should never be compressed. If the outside of a parcel of clothes or linen is too compact and the penetration by steam cannot take place quickly, this parcel shows exactly the same conditions as the copper ball in Bunsen's steam calorimeter; its surface is covered with water. But water condensation must not take place in steam disinfection, at least as far as objects with large pores are concerned.

BIOLOGIC ACTION OF STEAM

Now let us pass on to the biologic phenomenon concerned in the killing of microbes. It takes place first by the coagulation of the protein. The difference between the vegetative forms and the spores consists in the fact that when fresh the former contain a considerable amount of water and salt which makes the coagulation by heat easier. The spores (we know this with certainty as far as the mold-spores are concerned) contain only hygroscopic water and little salt. The hygroscopic water evaporating quickly in dry heat, there remains dry protein which contains little salt; this explains the great resistance of spores against dry heat, the protein not coagulating even at very high temperatures. I found that liquid water is not necessary for the coagulation of the protein; a certain amount of hygroscopic water is sufficient for the purpose. White of egg, when heated, coagulates to a white substance; if it is first dried in air and then placed under steam it coagulates without losing its yellow color.

Steam at 100 C. is also an important chemical agent. Keratin, albumin, casein and dried bacteria yield a little carbon dioxid, ammonia and hydrogen sulphid when placed in a current of steam, which proves the destructive influence of the steam. In hot dry air this separation takes place only at very high temperatures.

What germicidal power have the different kinds of steam in reference to freely accessible bacteria? For some time a temperature of 100 C. was considered absolutely necessary; higher temperatures were soon given up, the more compressed steam being more expensive and often destructive to the disinfected objects. When I tried the influence of steam at 95 C. on spores, there was very little difference; at 90 C. the spores were killed only after a rather long time (12 minutes at 90 to 1 minute at 95). At 85 C. the disinfection required more than one hour.

It is not only the temperature, but also the saturation of the steam that is important. One can produce at any temperature saturated and unsaturated steam. Steam at 100 C. with a saturation of 80 per cent. takes five times as long to kill bacteria as does saturated steam; steam of 70 per cent. saturation takes twenty-two times as long.

Now we see why different authors have obtained entirely different results in testing the germicidal power of superheated steam. If steam at 100 C. is superheated after it leaves the boiler it is altered in two ways: first, its temperature is raised, which improves its action; second, its saturation is reduced, which lessens its action. At first the two influences counterbalance each other. In superheated steam at 110 C. which was made from saturated steam at 100 C. the spores lived twice as long, at 120 C. three times as long, and at 127 C. ten times as long. We see from this that success is lessened as the steam becomes drier. The impregnation of the spores with water decreases, and with this decrease the disinfecting effect of the steam is diminished.

Immediately after the steam has entered the apparatus, its influence on the microbes is not very considerable, as the air not only prevents the steam from entering the finest pores of the objects, but also hinders the absorption of water by the microbes. The steam, however, becomes more concentrated after streaming through the apparatus for some time. If there is 8 per cent. air in the steam, the time required for disinfection is considerably lengthened; 20 per cent. lengthens it eightfold, 37 per cent. fifteenfold, and so on. The purer the steam, that is, the freer from air dilution, the quicker is its action.

Disinfection by saturated steam applied to properly prepared objects of porous and non-compressed material may lead to satisfactory results and is considered the best method for this purpose, but it has the great disadvantage of not being applicable to furs, leather, fine clothes, books, furniture, etc., as it would ruin them. Other wholly insufficient disinfecting methods—rubbing with disinfecting liquids, for instance—were therefore used instead.

This, too, is why dry heat was taken up again as a means of disinfection; but with this, one had to give up the killing of spores altogether. The disinfection by dry heat takes rather a long time but is said to show good results at temperatures of from 100 to 75 C. It has been especially applied to books and military clothing. But these methods in which the air is not sufficiently saturated with steam cannot be absolutely relied on.

STEAM-FORMALDEHYD DISINFECTION

The discovery of formaldehyd, a new gaseous means of disinfection, meant a great step in advance for the doctrine of steam disinfection. Oskar Löw first mentioned the poisonous influence of formaldehyd on the protoplasm of plants, but not till many years later were experiments made as to the use of formaldehyd for the disinfection of rooms. Peerenboom and I were the first to find that a certain amount of dampness in the air is necessary for the disinfecting action of formaldehyd. The different objects, wool, linen, etc., have a specific attractive influence for formaldehyd. On other objects formaldehyd is condensed only in smaller quantities. The reaction which leads to the poisoning of the microbes and which is doubtless a union of protein and formaldehyd, can take place only if there is some steam, provided that the objects are dry, as is generally the rule.

All reactions being considerably accelerated by temperature, I thought of using formaldehyd together with the undiluted steam of a disinfecting apparatus. It would then be possible, I argued, to use steam of a lower temperature instead of the high temperature which had proved destructive. But all the above-mentioned conditions of steam disinfection must of course be fulfilled. For my experiments an apparatus was constructed which fulfils all the conditions of steam disinfection that have been mentioned above. A considerable lowering of the boiling point by means of a vacuum allows of the production of steam at a temperature of from 50 to 60 C. or even less. The steam can be condensed and is conducted back to the boiler. Technically the construction of this apparatus was not easy of accomplishment.

My experiments had to answer two questions. First, there was the question whether in a fairly high vacuum the steam would enter the objects entirely and quickly. The circulation of the steam might be disturbed by its mixing with air in the partial vacuum, since the difference between the specific gravity of the steam and that of rarefied air is not so great as that between the specific gravity of the steam and that of normal air. This disturbing influence is counterbalanced, however, by the great purity, the lack of air, in the steam in my method, as well as by the unimpeded attraction of the steam by the hygroscopic objects, which has been proved by experiments.

The disinfecting apparatus allows the production of steam which contains a certain amount of liquid disinfecting agent. I first compared the composition of the steam with the concentration of the liquid. It would lead us too far if I should give details of the numerous experiments I made for that purpose. I shall only mention briefly that the effective substance contained by the steam by no means always corresponds with the concentration of the solutions; indeed, their relations are sometimes very complicated.

Formaldehyd being the cheapest of all the means which I tried, I always used it for my experiments. Christian found by means of different experiments on the killing of anthrax spores that at 50 C. the best results are obtained if 8 per cent. solutions are evaporated, which means that the steam contains from 2 to 8 per cent. of formaldehyd. The spores are killed in the same time as in saturated steam of 100 C. With my method little formaldehyd is lost, as the steam and the formaldehyd can be condensed and pumped back to the boiler. Strong pneumatic pumps empty the disinfecting apparatus in a short time until the desired vacuum is attained.

By steam-formaldehyd disinfection even the most delicate objects are not injured. At present the method has been carried to such a pitch of technical perfection that large apparatus in which even whole invalid-carriages can be disinfected are in use. Steam disinfection may now be used for all those objects to which it could not be applied formerly, and it kills not only the vegetative forms of microbes but also all living germs. It is possible to construct a large apparatus for the disinfection of railway cars. The trouble is little, and even the most luxuriously furnished car is not injured, while all living germs are killed. It would mean a great advance in railway hygiene if much-used cars, chiefly sleeping-cars, could be disinfected now and then. It is certain that progress will be made in this direction. Formaldehyd will not always remain the only means of disinfection; for instance, Christian found that thymol might be used as well for the apparatus; but formaldehyd being the cheapest means up to the present, it is the best for practical use.

It would be of great value to provide railway stations at the frontiers with better disinfecting apparatus. They might be useful, not only in the case of epidemics, but for the disinfection of infectious goods; I am thinking of the anthrax danger. Nowadays, infectious goods are sent to the stations which are responsible for their disinfection. This is always a danger because of the possible dissemination of infectious germs. I believe that these new methods of disinfection will help us in many cases in which the former methods were not applicable.

I hope I have proved that theory and practice must work together, and that scientific analysis is not only necessary for practical work but may even indicate new ways toward its improvement.

Fish to Destroy Mosquitoes.—An interesting experiment is being tried in South Africa, with the object of combating malaria. The officer in charge of the government fish hatchery in the Cape Province is now arranging to introduce from the Barbados a quantity of the small fish known as "millions." These tiny fish are said to have kept the Barbados Islands free from malaria by destroying the larvae of the fever-carrying mosquito. Two large ponds have been prepared for the reception of the fish, which are to be propagated and distributed throughout the fever districts of South Africa.—*Australasian Med. Gaz.*

A POSSIBLE SOURCE OF DANGER IN THE USE OF ANTIMENINGITIS SERUM*

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CINCINNATI

Dr. A. L. Knight of Madisonville, Ohio, asked me to see a case of meningitis with him March 5, 1913. We found a boy, aged 6, who had had intense headache, fever and nausea for three days. The head was *markedly retracted* and the neck rigid; Kernig's sign was present. The child was immediately sent to the private ward of the Contagious Hospital. Thirty c.c. *of turbid* cerebrospinal fluid were withdrawn, in which the meningococcus was subsequently found, and 30 c.c. of antimeningitis serum were injected with very good effect.

The following morning Dr. Knight sent the child's sister, aged 2, *to the hospital with similar* symptoms. This child immediately received the same treatment. In this case, however, the cerebrospinal fluid was clear, and no meningococci were found.

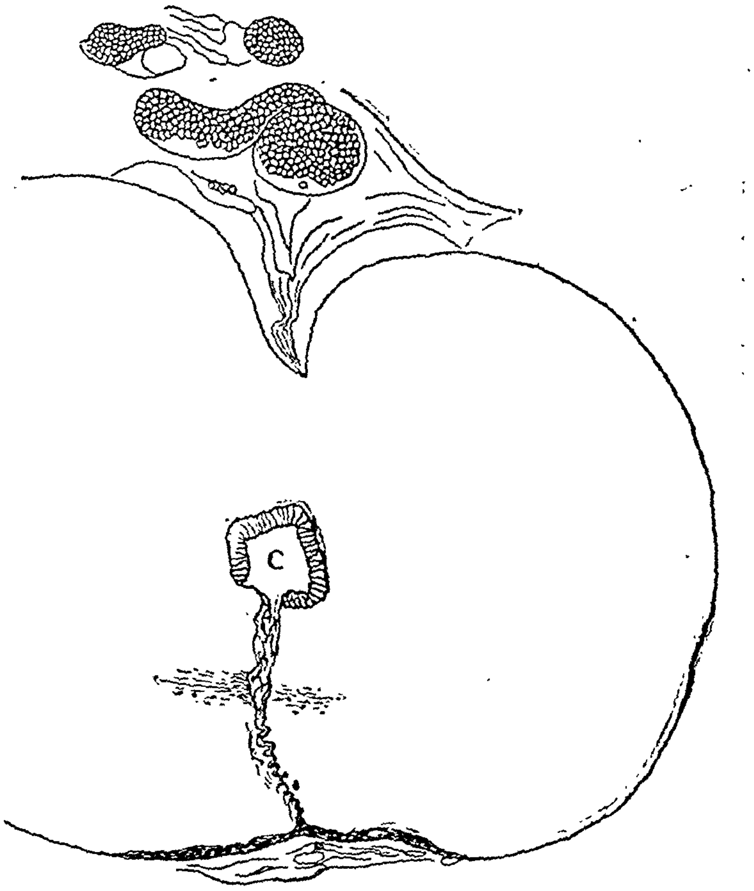

Fig. 1.—Section of cord of new-born child from the *region of the* conus *medullaris*, showing the *passage* leading from the central canal through the posterior median fissure to the outer surface. Top, anterior surface; bottom, posterior surface; *C*, central canal lined with ciliated epithelium.

The second child improved rapidly after the treatment, so that by March 9 we thought of sending her home. She was afebrile, with no headache, the only symptom being a retention of urine. The following morning she had a temperature of 102 with headache, rigidity and Kernig's sign positive. At 11 a. m., March 10, 30 c.c. of clear cerebrospinal fluid were withdrawn under light anesthesia, and 20 c.c. of antimeningitis serum injected. The child received no anesthetic during the time of injection. About two minutes after the injection she suddenly stopped breathing and became livid, the pupils being contracted, the heart beating strongly. After three minutes of artificial respiration the child again breathed normally and showed an internal strabismus of the right eye due to a paralysis of the right external rectus. An hour after, when the child became conscious, the nurse noticed a hemiplegia involving the

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*Presented to the Clinical Society of *the Cincinnati Hospital*, March 20, 1913.

entire left side of the body. The paralysis of the leg and face and right rectus disappeared that day. The left arm remained slightly paralyzed up to the time of the child's death, March 17. The day following the injection, the child developed a marked urticaria and a consolidation of the left lung due to a pneumonia, which proved fatal a week later.

At the time of the second injection the cessation of respiration and the nuclear paralysis struck me forcibly as being similar to what occurs in those patients who die after the lumbar subdural injection of cocain for purposes of anesthesia. The child's nurse, Miss Augusta Miltz, told us that she had seen three immediate deaths following the administration of antimeningitis serum at the Cincinnati Hospital last year. On going over the records these cases were found and will be given.

A child, aged 10 months, with a marked bronchitis, was admitted to the service of my colleague, Dr. A. Friedlander, at the Cincinnati Hospital, March 12, 1913, at 2 p. m. The child's head was retracted, and Kernig's sign was present.

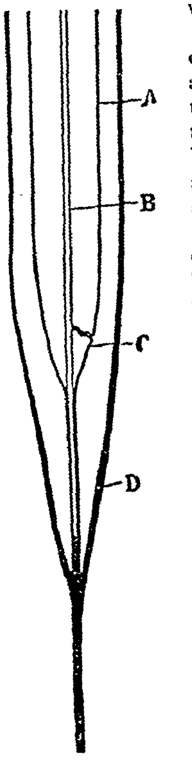

Fig. 2.—Diagram of lower end of spinal cord and membranes in young children; *A*, pia mater; *B*, central canal of spinal cord; *C*, passage leading from central canal to subdural space in region of conus; *D*, dura mater.

At 2.30 p. m. by spinal puncture 20 c.c. of cerebrospinal fluid containing some accidental blood were obtained. No anesthetic was used, the child crying during the slight operation. Twenty c.c. of New York Board of Health serum were then slowly introduced; the injection consumed at least twenty minutes.

At the end of the injection the child ceased crying and the respiration ceased. The pulse was good. Five c.c. of fluid were allowed to escape from the needle. Artificial respiration was immediately instituted; a facial paralysis of the right side developed and after two minutes the child was dead.

The coroner's autopsy in the case showed an extensive catarrhal pneumonia, some fluid at the base of the brain, no pus or fibrin in the cerebrospinal fluid, and no meningococcus.

A colored male child aged 4 was admitted to the service of Dr. Friedlander at the Cincinnati Hospital, March 12, 1913, with a temperature of 104, pulse 124, respiration 70, a bronchopneumonia, rigidity of the neck and an intermittent Kernig sign.

Spinal puncture was made, March 14, at 11 p. m., and 20 c.c. of cloudy fluid obtained. The fluid contained numerous leukocytes and a large number of Gram-negative intracellular diplococci. At midnight 10 c.c. more fluid were removed and 30 c.c. of New York Board of Health serum slowly injected. The injection consumed fifteen minutes. At the beginning of the injection the pulse was 140; respiration 58. At 12:15 the pulse was 80; respiration had almost ceased, having fallen to two per minute.

Artificial respiration and 1/60 grain strychnin were administered. During this time the cornea was anesthetic and the intern, Dr. Robert Reed, who made the observation, said that all the extremities were paralyzed. After a few minutes the patient improved and the breathing became normal. By 1:35 a. m. the paralysis had disappeared. At 10 a. m. temperature was 103, pulse 144, respiration 60. At 3 p. m. the child died.

The records show three other deaths at the Cincinnati Hospital during the past year, immediately following the injection of the serum, all occurring in young children.

December 20, 1911, a child aged 3½ years was brought to the receiving ward unconscious, with rigidity and retraction of the neck very marked, and Kernig's sign present. Temperature was 100.5, pulse 106. Pupils were equal and reacted to light, and the heart and lungs were normal. A spinal puncture was made by Dr. Charles Jones, the receiving physician, and 20 c.c. of turbid fluid under light pressure were removed. Following this, 15 c.c. of serum were very slowly injected, the pulse and respiration being unaffected during the time of injection. In from three to five minutes later the respiration suddenly ceased, the pulse remaining good. Artificial respiration was instituted, but was of no avail. The action of the heart continued for about two minutes and then gradually stopped. Chloroform anesthesia was used, but the patient was never in a state of complete anesthesia.

March 4, 1912, a boy aged 7 was admitted to the service of Dr. B. K. Rachford with the history of the onset of headache two days previously. He was delirious on admission with intense headache, retraction of the head, neck rigid and marked Kernig's sign. Lumbar puncture with chloroform anesthesia yielded 45 c.c. of clear fluid under pressure. Forty c.c. of serum were then injected. Five minutes after the injection, respiration became feeble and suddenly stopped. Artificial respiration was instituted, without avail. Autopsy showed the meninges intensely congested; there was no pus or fibrin, but a large amount of clear fluid was present in the cistern at the base of the brain.

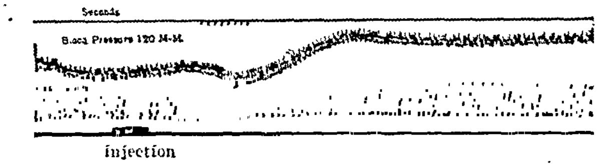

Fig. 3.—Tracing obtained by injecting 2 c.c. of antimeningitis serum into the left vertebral artery of a dog weighing 8 kg. (17½ pounds). In all experiments the blood-pressure was taken from the femoral artery by manometer. The respiration was recorded by means of a Paul Bert pneumograph, the upstroke represents inspiration.

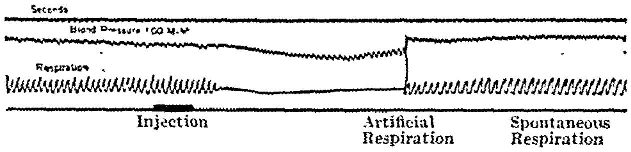

Fig. 4.—Tracing obtained by injecting 2 c.c. of 0.5 per cent. tricresol solution into the left vertebral artery of a dog weighing 8 kg. (17½ pounds).

Nov. 2, 1912, a well-nourished boy aged 5 was admitted to the service of Dr. Rachford, with severe headache, rigidity of the neck, and a marked Kernig's sign. Lumbar puncture yielded 25 c.c. of turbid fluid. Thirty-seven c.c. of serum were injected; the child became dyspneic, but soon improved. The next day at 6:30 p. m. the child was given another 30 c.c. of the serum with good results. The following day, November 4, at 7:30 p. m., 30 c.c. of turbid fluid were again withdrawn and 30 c.c. of serum injected. Immediately following the completion of the injection, respiration ceased and the child died.

March 19, 1913, Dr. L. W. Stacey saw a girl aged 10, who had been found by her mother unconscious in bed at 8 o'clock that morning, although apparently well on the preceding day. Marked rigidity of the neck and a positive Kernig's sign were present. The child had had two convulsions that morning. Temperature was 101; respiration normal. At 12:30 p. m. 40 c.c. of turbid fluid were removed by lumbar puncture and 40 c.c. of serum were slowly injected. The injection consumed twenty-five minutes and was completed at 1:30 p. m. No anesthetic was used. The child felt the insertion of the needle. At 2 o'clock Dr. Stacey was called; the respiration had ceased, but the heart was still beating. Artificial respiration was continued for one hour when the heart ceased to beat.

March 10, 1913, a girl aged 9, whose illness began that morning at 9 o'clock with headache, rigidity of the neck and the

Figure 3 is a tracing obtained by injecting into the vertebral artery of a dog 2 c.c. of antimeningitis serum. Immediately following the injection the respiration ceased, remained in abeyance for ten seconds and then slowly recovered.

Figure 4 is a tracing obtained by injecting 2 c.c. of 0.5 per cent. solution of tricresol in the same way with the same result.

Figure 5 is a tracing obtained from a different experiment. The posterior cranial fossa in a dog was opened, the dura was incised and the cerebellum exposed.

Two cubic centimeters of 0.5 per cent. solution of tricresol in water were then injected into the subdural space under conditions (since the dura was opened) that prevented excess of intracranial pressure. The respiration ceased a few seconds after the beginning of the injection, the blood-pressure fell very rapidly and immediate death of the animal was prevented only by artificial respiration, which was necessary for ten minutes before the animal breathed spontaneously.

Figure 6 is a tracing obtained from an experiment in which 2 c.c. of antimeningitis serum were injected into the subdural space of a young dog. A few seconds after the injection respiration stopped. Artificial respiration for half a minute restored respiration, which was slow and irregular, and five minutes later the animal died. The blood-pressure slowly sank after the injection.

CONTROL INJECTIONS OF NORMAL BLOOD-SERUM INTO THE VERTEBRAL ARTERY OF DOGS PRODUCED NO EFFECT

In the U. S. Public Health Reports,[3] Dr. W. H. Frost has described similar deaths following the injection of antimeningitis serum. In THE JOURNAL Dr. Arthur H. Parmelee[4] has reported ten cases of respiratory failure. A letter from Dr. Parmelee states that respiratory failure in all these cases came on within fifteen minutes after the administration of serum.

Indeed, so common has this catastrophe become that in a circular issued by the New York Department of Health, directions are given as to what should be done when breathing stops following the administration of serum.

The toxicology of phenol (carbolic acid) poisoning bears out our experimental results and conclusions. It has long been known that death from phenol results by paralysis of respiration. That phenol has a great affinity for nervous tissue is shown by the fact that a considerable percentage of phenol ingested has been recovered from the brain in cases of phenol poisoning. The phenols are all readily miscible in lipoid substances and this may be the explanation for their toxicity on the nervous system. For the last suggestion, I am indebted to my colleague, Dr. Julius H. Eichberg.

From what has gone before I think the conclusion is justified that serum containing 0.5 per cent. tricresol, cannot safely be injected into the subarachnoid space.

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[3] U. S. Public Health Reports, Jan. 26, 1912, p. 115.

[4] Parmelee, A. H.: Epidemic Cerebrospinal Meningitis, THE JOURNAL A. M. A., March 1, 1913, p. 659.

Political Health Departments.—Certainly the very worst use which can be made of the health appropriation is to employ it for the purpose of paying political debts. Decreased efficiency is the sure result, and the community which permits such a misuse of the public funds will deservedly suffer an increasing toll of sickness and death.—Charles V. Chapin, *Am. Jour. Pub. Health.*

THE CRIMINAL PHYSIQUE

A PRELIMINARY REPORT ON THE PHYSICAL EXAMINATION OF ONE THOUSAND, FIVE HUNDRED AND TWENTY-ONE PRISONERS AT THE WISCONSIN STATE PRISON

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> The only legitimate question which sociology can put to anthropology is this: "Is the criminal, and in what respects is he, a normal or an abnormal man? And if he is abnormal, whence is the abnormality derived? . . . We must study the organ before the function, and the physical before the moral.—*Enrico Ferri.*

That a definite relationship exists between physical development and efficiency is generally accepted as fact. The world-wide investigations of schoolchildren reported by such men as Dr. Porter of Harvard, the late Dr. Christopher of Chicago, Hastings in Omaha, Byer in Cambridge, Leharzig in St. Petersburg, Burgerstein in Vienna and Roberts in London all agree that at the same age the average height and weight of pupils in the higher grades is greater than of those in the lower. These exhaustive reports prove the relationship in schoolchildren between a vigorous brain and a well-developed body—that those physically most precocious are mentally most precocious. That this rule should hold equally good after adolescence is a logical conclusion although there are few data to be had on the subject. This correlation of body and mind can, no doubt, be demonstrated in any class of individuals by a collective study of the particular class.

The mental and moral shortcomings of the criminal classes are accepted as facts without the necessity of presentation of data. That as a class they are physically defective is the belief, founded on general observation, of those who are thrown into intimate relationship with them. It was the desire for further scientific and accurate proof for this belief that prompted the work on this paper and the tables here given.

The anthropometric committee of the British Association for the Advancement of Science reported on the examination of 3,000 criminals and found them to be about 2 inches shorter and 17 pounds lighter than the average Englishman. Baer of Berlin, reporting on the German criminal, gives much the same results. Quetelet and Raseri find young offenders below normal height. Lombroso and others of the Italian school report a tendency among criminals to be taller and heavier than the average Italian. Few reliable data are to be found in American literature. Hamilton Wey, reporting on 529 boys at the Elmira Reformatory of an average age between 20 and 21 years, gives an average height of 65½ inches and an average weight of 133 pounds, which is below that of the college boys quoted in my tables. August Drahms, chaplain at San Quentin, reported the San Quentin prisoner's average height as 66.8 inches.

The results of my investigation of height at the Wisconsin State Prison are quite similar to those of the anthropometric committee of the British Association for the Advancement of Science, though I am able to report on only half the number. Taking the average of 221,819 Americans examined by forty-three old-line life insurance companies, as reported in 1912 by the Actuarial Society of America, as a type of American for comparison, I find the Wisconsin convict, as shown in Table 1, to be 1.8 inches below the average American height Taken as a whole, the 1,521 criminals reported on are at the average of 36 years and 6 months, mature men, and have reached their full growth and development. A study of Table 1 will show that the Wisconsin convict, who cannot differ radically from the average white convict of any other state, is physically most markedly inferior to the average American citizen in height. He, a man grown, lacks 1.4 inches of the stature of the average freshman at our state university, and is 2 inches shorter than the average Harvard student, and it must be remembered that few of these students have reached their full growth and development. Likewise, he lacks 1.3 inches of the height of the men and boys who enlisted in the Civil War and is 3 inches inferior in height to the Fellows of the Royal Society of England and English professional men.

That he is well nourished and weighs comparatively more than the British criminal and little, if any, less than the average American citizen is shown in Table 2, where detailed comparisons are given with citizens of the same age and height. His chest measurement is very fair. The expansion is small but this means little except that he has not learned to breathe properly.

TABLE 1.—COMPARISONS OF *HEIGHT, WEIGHT* AND CHEST MEASUREMENT AND EXPANSION

	Number Reported	Average Age, Yrs.	Average Height Inches	Average Weight Pounds	Aver. Chest Measure, In.	Aver. Expansion, In.
victed criminals t Wis. State Pris.	1,521	36½	66.7	144.1	35.5	2.9
lerers	269	35½	67.1	142.8	37.3	3.1
ieves	331	38½	67.2	143.5	35.6	3.1
Criminals through fraud	230	35⅔	67	148.1	36.1	2.9
Sexual criminals	282	38⅔	66.2	145.9	36.4	3
Vagrants	109	39 1/12	67.3	144.5	36.3	3.1
Recidivists	300	33⅓	66	141.2	34.3	2.5
Ar[illegible]	[illegible],819	....	68.5	.....	....	...
Average Harvard student	....	....	68.7	143.	....	...
Freshmen at the University of Wisconsin	800	19⅔	68.1	139.1	34.9	...
Students at Amherst College	353	....	68.5	143.4	36.9	...
Soldiers enlisted in Civil War	753,666	....	68	.....	....	...
English professional classes	....	....	69.8	160	....	...

For more thorough study I have, in collecting this and other data, divided the men examined into six broad classes. These classes are arrived at from a psychologic rather than a physical study point of view. They are made up of those convicted of crimes as follows:

1. Murderers: murder, manslaughter, assault with intent to kill, etc.
2. Thieves: burglary, larceny, horse-stealing, etc.
3. Criminals through fraud: forgery, embezzlement, obtaining money under false pretenses, etc.
4. Sexual: rape, incest, sodomy, taking indecent liberties, etc.
5. Vagrants: vagrancy, abandonment, habitual drunkenness.
6. Recidivists: those who have served one or more previous terms in a prison, reform school or reformatory (jail sentences not included).

A study of Table 1 shows the murderer to be well above the average criminal in height, somewhat below in weight, but leading in chest measurement and expansion. The thief is well above the average in height and slightly below in weight. It is of interest to find that the criminals through fraud, though most often in-door workers, outweigh all others, and have a good chest measurement though a small expansion, as would be expected. The sexual criminals are older than any of the other classes and the shortest in stature, excepting the recidivists.

The figures given for the recidivists or habitual criminals are by far the most significant and show the marked physical inferiority of the chronic offender. It is surprising to find them the youngest of the classes given. This is partially explained by the fact that I have included in this class the large number of young men we are receiving who have been previously committed to reform schools and reformatories. These men of an average age of 33 years lack 2.1 inches of the height of the average Wisconsin boy just out of high school, lack 2.5 inches of the height of the average American of their age and 2.7 inches of the height of the average Harvard student as reported by Professor Sargent. It will be noted that they are well nourished but are markedly deficient in chest and expansion measurements. These last measurements may be partially accounted for by the lack of physical exercise in the open air while subject to previous incarceration in this and other institutions. This could not by any argument, however, account for the degree of deficiency in stature, which can be explained only as a marked and unmistakable stigma of degeneracy. Associated with these, I find in this class the highest percentage of other physical stigmata, such as degenerate palates, ears, facial and cranial asymmetry, etc., though these are merely mentioned and not covered in this paper.

TABLE 2.—COMPARISONS OF WEIGHT

Criminals at Wisconsin State Prison (Examined Without Clothing)	Wgt. Lbs.	Wgt. Lbs.	Citizens Examined for Insurance* (With Some Clothing)
1521 convicted criminals (Age 36-6, ht. 66.7)	144.1	151	893 citizens (Age 37, ht. 67)
269 murderers (Age 35-6, ht. 67.1)	142.8	151	930 citizens (Age 36, ht. 67)
331 thieves (Age 38-6, ht. 67.2)	143.5	153	783 citizens (Age 39, ht. 67)
230 criminals through fraud (Age 35-8, ht. 67)	148.1	151	930 citizens (Age 36, ht. 67)
282 sexual criminals (Age 38.8, ht. 66.2)	145.9	149	610 citizens (Age 39, ht. 66)
109 vagrants (Age 39.1, ht. 67.3)	144.5	153	783 citizens (Age 39, ht. 67)
300 recidivists (Age 33.4, ht. 66)	141.2	147	860 citizens (Age 33, ht. 66)

*Report of Actuarial Society of America.

TABLE 3.—COMPARISONS OF TEMPERATURE, PULSE AND RESPIRATION

	Number Reported	Aver. Age, Years	Aver. Temperature, F.	Aver. Pulse, (Sitting)	Aver. Pulse, (Standing)	Aver. Respirations
Convicted criminals at Wis. State Prison	1,521	36½	98.2	81.9	88.5	20.3
Murderers	269	35½	97.8	72.1	89.7	20.1
Thieves	331	38½	98.3	83.3	90.1	20.3
Criminals through fraud.	230	35⅔	98.4	83.5	90.1	20.3
Sexual criminals	282	38⅔	98.1	81.6	89.1	20.2
Vagrants	109	39 1/12	98.2	79.1	88.2	20.3
Recidivists	300	33⅓	98.4	85.1	93.4	20.5

Table 3 is of special interest. A subnormal temperature associated with an accelerated pulse and respiration is noted in the last five classes, the greatest increase in pulse and respiration being, as one would expect, in the most imperfect class, the habitual criminal.

The pulse of the murderer alone is normal and contrasts strangely with that of the other classes. His temperature, so markedly subnormal, is a subject for speculation and a phenomenon I am unable to explain.

In accepting these or other comparisons between the criminal and the average American citizen, we must admit that they are more or less unfair. The proportion of convictions to crimes committed is small. The "normal" individuals taken for comparison would comprise some styled "normal" only for courtesy's sake; some undetected in crime; some who, because of favorable environment, have not been exposed to the necessity or temptation of crime; some who are degenerates and defectives yet non-criminal, and some who will become criminal later on. Then, too, it must be remembered that the prison population here averaged is made up of first offenders, habitual criminals, criminals by accident who are normal in every way and doubtless some innocent of crime. The preceding statement shows the difficulty of an accurate comparison, although it is the best that can be done in collecting data of this kind. A comparison of measurements of the strictly normal and the purely criminal would, no doubt, only emphasize the more the physical inferiority of the true criminal class.

THE IDENTITY OF ENTAMOEBA HISTOLYTICA AND ENTAMOEBA TETRAGENA

A PRELIMINARY NOTE *

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Recent work on the entamebas found in the intestinal canal of patients suffering from dysentery has resulted in many authorities concluding that the entameba described by Schaudinn[1] as *Entamoeba histolytica* is really identical with the one later described by Viereck,[2] which he considered a new species and named *Entamoeba tetragena.* Until recently I have considered these two species distinct and the object of this communication is to place on record the opinion I now hold, as the result of the study of recent material, that *Entamoeba tetragena* is identical with *Entamoeba histolytica,* and that the life-cycle of this entameba, as described by Schaudinn and confirmed by myself and others, is incorrectly described so far as reproduction by the process of "budding" or spore formation is concerned.

My present opinion is the result of the study of preparations from three cases of histolytica infection occurring in Panama, sent to me by Dr. W. M. James of Ancon Hospital, and of the study of a case of histolytica infection in an inmate of the Soldiers' Home at Washington, the infection having been contracted in the Philippine Islands. The details of these cases and a full description of the various forms of entamebas observed in the preparations will be considered in a forthcoming paper, but I desire to state that in all these cases I have been able to observe every form of both *histolytica* and *tetragena*, so far as nuclear structure and reproduction goes, that has been described for either species, and as double infection in these cases can practically be ruled out, I am forced to conclude that there is only one species of entameba present and that all of the forms found belong to the life-cycle of *Entamoeba histolytica.*

I have based my objection to the identity of the two species under discussion on the fact that many cases of amebic infection are observed, in which, at no time during the course of the disease, were the four-nucleated cysts characteristic of *Entamoeba tetragena* seen in either fresh or stained preparations, and that in such instances the budding forms described by Schaudinn were sometimes encountered. From the study of the preparations already mentioned I am now convinced that the budding forms supposed to represent a stage in reproduction of *Entamoeba histolytica* are degenerative in character, as they were found in these preparations in small number along with typical four-nucleated cysts, and that the normal method of reproduction of *Entamoeba histolytica* in the cystic stage of development is by the formation of cysts containing four daughter nuclei. Encystment in this species evidently only occurs in a certain proportion of cases and under favorable conditions, and many cases are thus observed when the cysts cannot be demonstrated.

Much of the confusion that has existed regarding these entamebas has been the result of inadequate descriptions of the nuclear structure and life-cycle, but it is now evident that the nuclear structure of *Entamoeba histolytica* varies all the way from that first described as typical of it, to that on which so much stress has been laid as typical of *Entamoeba tetragena.* It is also true that many authorities have entirely overlooked the forms wrongly interpreted as budding forms by Schaudinn and others, including myself, and thus added to the confusion by denying their existence. In a more detailed contribution I shall discuss this subject more fully, but I believe that Schaudinn's interpretation had much to justify it, and coming from so great an authority it was accepted by many other observers.

As *Entamoeba tetragena* is, so far as our present evidence goes, identical with *Entamoeba histolytica,* the name "*tetragena,*" as a specific name, should be abandoned. Although Viereck considered that he had described a new species of entameba when he described *tetragena,* he really first correctly described the cystic stage of the life-cycle of *histolytica*; and as Schaudinn undoubtedly separated this species from the harmless *Entamoeba coli*, and gave it the name "*histolytica,*" this name must stand, as *tetragena* becomes merely a synonym of *histolytica* if we believe the two are identical. To Walker[3] belongs the credit of first definitely calling attention to the fact that *Entamoeba histolytica* presents nuclei of both the *histolytica* and *tetragena* type and that the name *tetragena* should give way to that of *histolytica.* I agree with Walker's statements in this matter and with that of Wenyon,[4] who says: "The common pathogenic ameba of man is still *Entamoeba histolytica,* but the life-history is not that described by Schaudinn, but that discovered by Viereck."

The work of James[5] and myself[6] has demonstrated that infections with *histolytica,* in which the majority of the organisms present possess the typical *histolytica* nucleus, do not, as a rule, show cysts. From this it is evident that further work should be done in order to determine why so large a proportion of such cases do not show cysts; what conditions favor encystment; and whether the cases presenting entamebas with this type of nucleus are characterized by a more acute course, as suggested by James,[5] than those in which cysts develop.

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* From the Bacteriologic Laboratories of the Army Medical School.

[1] Schaudinn, F.: Untersuchung ü. d. Fortpflanzung d. Rhizopoden, Arb. a. d. k. Gsndhtsamte., 1903, xix, 547.

[2] Viereck, H.: Studien ü. die in den Tropen erworbene Dysenterie, Arch. f. Schiffs- u. Tropen-Hyg., 1907, xi, Beiheft 1, pp. 1, 41.

[3] Walker, E. L.: A Comparative Study of the Amebas in the Manila Water-Supply, in the Intestinal Tract of Healthy Persons, and in Amebic Dysentery, Philippine Jour. Sc., 1911, vi, Section B, p. 259.

[4] Wenyon, C. M.: Experimental Amebic Dysentery and Liver Abscess in Cats, Jour. London School of Tropical Medicine, 1912, ii, Part 1, p. 27.

[5] James, W. M.: Infection with Entamoeba Tetragena, New York Med. Jour., 1913, xcvii, 702.

[6] Craig, C. F.: Observations on Amebas Infecting the Human Intestine, etc., Am. Med., 1905, ix, 854, 897, 987; Studies on Amebas in the Intestine of Man, Jour. Infect. Dis., 1908, v, No. 3, p. 324; The Parasitic Amebas of Man, Ed. 1, 1911, Philadelphia.

Since the preceding was put in type, an article by Dr. Darling has appeared in The Journal, April 19, in which he describes typical "budding and sporulating forms" of *Entamoeba tetragena* in infected cats, and concludes that such forms are degenerative in nature; that *E. tetragena* is the most common species of entameba concerned in the etiology of dysentery; and that *E. histolytica* is probably a spurious species described from senile forms of *E. tetragena.* I am fully in agreement with Darling so far as the nature of the budding and sporulating forms is concerned; I cannot, however, regard *E. histolytica* as a "spurious" species, but do regard *E. tetragena* as such, for it must be admitted that, while Schaudinn did not describe correctly the entire life-cycle of *E. histolytica,* he did differentiate the pathogenic species of entameba from the non-pathogenic; gave it the name *Entamoeba histolytica;* described a type of nucleus in this species that is found during one stage in the development of the so-called *E. tetragena,* and it therefore follows that the latter name should be discarded and Schaudinn's name retained. Amending the description of a species does not warrant the use of a new specific name, nor can it be said that a species is "spurious" because it was not properly described by its discoverer.

NEW METHOD OF TREATING NEURALGIA OF THE TRIGEMINUS BY THE INJECTION OF ALCOHOL INTO THE GASSERIAN GANGLION

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The greatest advance in the treatment of trifacial neuralgia was made when Schlösser, a Munich ophthalmologist, announced his method of injecting alcohol into the branches of the trigeminus nerve at their exit from the cranium. Ostwalt in Europe, and Kiliani and Hauck in America somewhat later adopted what was practically the same method with slight modifications. As the technic was extremely difficult, only the chosen few who had learned it directly of the master, after serving with him a more or less prolonged apprenticeship, were in a position to utilize it in their practice. It was not, therefore, until Lévy and Baudouin of Paris had discovered a comparatively easy technic that the alcohol-injection treatment of trifacial neuralgia had become a distinct addition to the physician's therapeutic armamentarium.

Though this has become the generally accepted method of treating true trifacial neuralgia, there are cases in which the benefits of the method cannot be realized, either because of variations in the given landmarks, or on account of skeletal anomalies interfering with the proper injection of alcohol into the nerves at their exit from the skull. Then there are patients in whom for some mysterious reason the alcohol, though properly placed into the peripheral branches, fails to influence the pain. And last, but not least, neuralgias having a purely central origin may not respond to the treatment by peripheral injections. All such patients are usually considered appropriate subjects for the radical gasserian ganglion operation, so-called gasserectomy. Though yielding splendid results in the hands of skilled operators, it is said to be a formidable operation even by daring surgeons. Thanks to an improved technic, the mortality has been greatly reduced, but it is still high. Hence this operation is one of last resort.

It was quite natural, therefore, that investigators should have labored hard to find substitute measures for this radical procedure. As alcohol had already proved its efficacy in peripheral nerve injections — its action being to cause degeneration of nervous tissues — it was planned to introduce this substance into the ganglion rather than have recourse to destruction by the knife, which is more dangerous and perhaps not more effective. The problem still remained, how to get the alcohol into the gasserian ganglion without resorting to a cutting operation. To Dr. F. Härtel,[1] of Bier's clinic, belongs the credit of having worked out such a method, the technic of which is but little more complicated than that of the peripheral nerve injection.

While in Berlin last November I had the opportunity of hearing Dr. Härtel on this subject at a meeting of the Berlin Surgical Association, when he also demonstrated cases in which there had been successful injection by his method. Owing to the limitations of its field of usefulness, I have had occasion to apply this method only once in my practice, but I deem it of sufficient importance to publish both a description of the method and a report of the case.

ANATOMIC DATA

As in this method the point of entry into the skull is through the foramen ovale, it is necessary to review briefly the important anatomic details in connection with the region of which the foramen ovale constitutes the central point.

The foramen is located in the zygomatic or infratemporal fossa. The anterior wall of this fossa is formed by the convex posterior or zygomatic surface of the superior maxilla, which rises behind the socket for the last molar tooth to form the tuberosity. The inner wall of the zygomatic fossa is formed by the outer surface of the external pterygoid plate, whose lower border is usually curved and slightly everted; superiorly, it sweeps upward to become continuous with the broad under surface of the great wing of the sphenoid. The external pterygoid muscle has extensive attachments to both of the latter structures, while minute canals for the transmission of emissary veins pierce the great wing of the sphenoid alone. There is occasionally found one foramen larger than the rest (foramen Vesalii), the function of which is to permit a vein from the cavernous sinus within the cranium to join the pterygoid venous plexus situated in the pterygomaxillary region. Immediately behind the root of the external pterygoid process is seen the foramen ovale, through which passes the inferior maxillary division of the fifth nerve, together with its motor root, and the small meningeal artery. Behind the foramen ovale, and in line with the alar spine, is the smaller foramen spinosum, which permits the passage of the middle meningeal artery and its companion veins. With the lower jaw in position, the zygomatic fossa is concealed by the ramus of the inferior maxilla, the inner surface of which, in its upper half, forms the outer wall of the fossa. The ramus and coronoid process are so placed as to occupy a position intermediate between the zygomatic arch externally and the external pterygoid plate internally; their inner surface, therefore, forms the outer wall of the zygomatic fossa.

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[1] Härtel, F.: Die Leitungsanästhesie und Injektionsbehandlung des Ganglion Gasseri und der Trigeminusstämme, Arch. f. klin. Chir., c, No. 1.

The foramen ovale, though often described as a mere hole, is in reality a bony canal, a little less than 1 cm. in length, which traverses the great wing of the sphenoid bone obliquely from below upward, backward and slightly outward. Measurements undertaken for the purpose of ascertaining the exact dimensions of the foramen ovale yielded for the long diameter a minimum of 5 and a maximum of 11 mm., while its width ranged from 2 to 7.5 mm. From these findings it becomes evident that we must use a small-calibered needle capable of passing through the narrowest opening. Anteriorly and externally the foramen ovale is guarded by the pterygoid plate of the sphenoid bone, posteriorly and internally, by the angular spine of its alae. As the distance between the foramen spinosum and the foramen ovale varies from 0 to 6 mm., there are possibilities for wounding the middle meningeal artery, which passes through the spinous foramen. The danger, however, is largely theoretical, and can be avoided by the operator feeling his way along the smooth bone from before backward until there is no more resistance. We are then in the foramen ovale. Should the finger holding the needle perceive the sensation of roughness or unevenness, we have probably reached the posterior border of the foramen and are passing into the region of the eustachian tube. In such event it is necessary to reintroduce the needle and take a more external and anterior direction.

The gasserian ganglion is situated in the depression on the tip of the petrous portion of the temporal bone, the superior border of which is about 1.9 cm. removed from the foramen ovale, which is directly parallel with it. A needle passed through the center of the foramen and pushed onward in the same direction must pierce the ganglion, this being the aim of the new method.

Assuming a needle to have been introduced into the foramen ovale, it will be seen that the trigeminus axis from the temporal bone, followed downward, will cross the zygomatic fossa about midway between the ascending ramus of the lower jaw and the tuberosity of the superior maxilla. Where will the needle emerge on the face? This is impossible to predicate in an individual case. In the majority of instances it will be found that the introduction of the needle into the cheek, opposite one of the three upper molars, will lead to the objective point — the foramen ovale. The point of introduction will vary with the anatomy of the superior maxilla, and with the steep or slanting direction of the trigeminus axis. One is compelled to go either forward or backward until the foramen is reached. There being no definite bony landmarks, we may be obliged to make several punctures before we succeed in entering the foramen ovale, which we do by feeling our way along the smooth bone until the bony resistance yields to something soft—an indication that we have entered the skull. This mode of reaching the objective point Dr. Härtel designates as the entry by the "concentric" road, opposing it to the "divergent" puncture, in the latter of which a needle is introduced through one opening and, remaining there, is moved in various directions until the desired point is reached. In his method, on the other hand, the needle is reintroduced at various points until the foramen in the skull is found; if the several punctures were continued onward as straight lines, they would appear to converge toward the foramen ovale.

TECHNIC

The principles underlying the technic of gasserian ganglion injections may be briefly summarized in the following paragraphs:

1. A correct appreciation of bone sensation.
2. Good finger-touch perception.
3. A knowledge of the approximate depth to which the needle must attain before reaching the foramen ovale.
4. Recognition of the direction which the needle is taking.

The needle is introduced through the cheek opposite the alveolar process of the second upper molar tooth (Fig. 1), but it may become necessary to reintroduce the needle from either more anterior or more posterior points. With the patient's teeth approximated, upper to lower ones, the operator places the index-finger of his left hand into the vestibule of the buccal cavity. When the needle has passed through the buccal fat-pad, this finger prevents the point from penetrating the mucous membrane, and guides it through the narrow pass between the border of the inferior maxilla and the tuberosity of the superior maxilla.

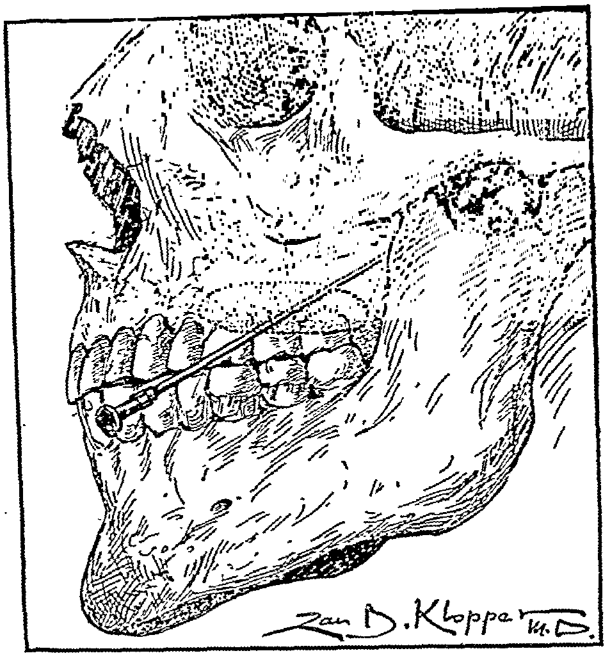

Fig. 1.—Needle, passed through area of anesthetized skin, in position.

Causing the needle to sweep around the buccinator muscle, the operator pushes it onward between this muscle and the masseter, coronoid process of the lower maxilla and the temporal muscle externally, into the zygomatic fossa. Continuing in the direction upward, backward and slightly inward, the needle now reaches the broad under surface of the great wing of the sphenoid, having pierced the external pterygoid muscle, which fills the zygomatic fossa. At this juncture the finger can no more assist. A correct knowledge of the depth and direction which the needle has traversed is now of great importance in furthering the completion of the operation. According to the originator of the method, the needle engages in the foramen ovale at a depth of about 6 cm. from the point of entrance. It is well, therefore, to mark off this distance on the needle before beginning the injection. This can be done by placing the movable piece gliding over the needle, the so-called "runner," at the desired spot, which has been previously measured off by the centimeter scale forming part of the injection outfit (Fig. 2).

While a knowledge of the depth which the needle has attained is of great value for purposes of orientation, it is almost as important to know what direction the needle is taking. We have fairly reliable data with reference to this subject. Dr. Härtel has discovered that the needle, when placed in the gasserian ganglion, points anteriorly toward the pupil of the same side; that is, when looked at from the front, a prolongation upward will bisect the pupil. The observance of the correct anterior position of the needle will do much toward preventing its going astray into the temporal fossa, the eustachian tube or the pharyngeal region. Should the needle follow a wrong direction, it will point either too far inward or too much outward.

A second valuable guide with reference to direction is that when the needle occupies a correct position its lateral end, if prolonged in an upward direction, would meet the eminentia articularis of the zygoma. With the invisible end of the needle too far forward, as for instance in the pterygopalatine fossa, or too far backward, in the carotid or jugular foramina,[1] the visible portion of the needle will have changed its direction with reference to the articular eminence. Such possibilities should emphasize the importance of closely observing the needle direction as outlined.

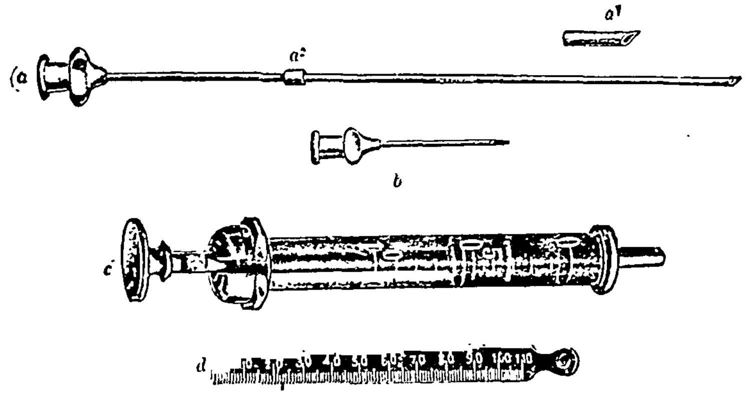

Fig. 2.—Dr. Härtel's complete outfit for trigeminus injections (Windler); *a*, hollow needle, 10 cm. long, 0:8 mm. wide; a^1, bevel-edged point of needle; a^2, "runner" attached; *b*, needle for infiltration anesthesia; *c*, 2-cm. record syringe; *d*, metal centimeter scale (reduced).

As soon as the needle enters the foramen ovale, the patient experiences violent pain in the distribution of the inframaxillary nerve. The movable guide is now placed about 1.5 cm. outwardly, and the needle pushed in the same direction as before until it becomes flush with the skin. During this maneuver the patient usually experiences sharp pain in the upper teeth, indicating that the second branch of the trigeminus within the ganglion has been reached. The syringe, previously filled with 80 per cent. alcohol, is now attached to the needle and the alcohol slowly injected, the quantity not to exceed 1 c.c., the usual amount being 0.5 c.c. After a successful injection there is slight burning in the distribution of the fifth nerve, followed by complete anesthesia in the same area.

Summary of Technic.—1. Use local anesthesia, on the side to be injected, over a strip of skin opposite the upper three molars.

2. Before the introduction of the needle — 10 cm. long, 0.8 mm. thick, and bevel-edged at the taper—the probable depth to the foramen ovale should be marked off by placing the "runner" at a point about 6 cm. from the tip.

3. Puncture the skin and guide the needle, assisted by the finger in the mouth, so as to pass between the anterior border of the ascending ramus and the maxillary tuberosity, sweeping by the buccinator muscle and into the zygomatic fossa.

4. Carefully observe the direction of the needle; looked at from the front, it points toward the pupil of the same side; viewed from the side, it points to the eminentia articularis of the zygoma.

5. The foramen ovale is found by feeling one's way from before backward along the smooth hard bone of the broad under surface of the great wing of the sphenoid until its anterior external border is reached.

6. When the foramen ovale is reached, which is recognized by loss of bone resistance and the instant production of sharp pains in the distribution of the third branch of the trigeminus, the "runner" on the cannula is pushed out about 1.5 cm., and the needle advanced in the direction hitherto followed, until pain is also experienced in the second branch distribution of the trigeminus — a certain sign that the ganglion has been pierced.

7. Attach the syringe, previously filled with 80 per cent. alcohol solution, and inject slowly, drop by drop, from 0.5 to 1 c.c.

8. After a few minutes examine for complete anesthesia.

CLINICAL REMARKS

There are certain dangers connected with this substitute for gasserectomy which are similar to those of the radical operation itself, the most important being the possible production of neuroparalytic keratitis. Dr. Härtel observed this complication in four out of his ten patients; three recovered, but the fourth patient retained a cloudy cornea in spite of expert treatment. To prevent corneal complications, it is advisable to place patients who are to receive the injection treatment in a hospital where the eye on the side to be injected may be treated prophylactically. Several times daily the eye should be washed out with mild antiseptic solutions; between washings and after the injection has been made a watch-crystal should cover the eye, thus keeping out the dust. Even after the patient has been discharged, the eye must receive attention for several months thereafter, as the keratitis may occur at a later date if proper precautions are not taken. It is a good rule not to treat the patients as ambulatory, but in every instance to have them go to a hospital several days before making the injection. The originator of the method himself has sinned against this rule; he now refuses to inject in the dispensary or in his office, and he advises others to follow the same course.

All the patients with trigeminus neuralgia treated by this method had remained free from pain to the time of Dr. Härtel's report[1] (Nov. 13, 1912), the first having been injected only five months previously.

Because of the possible corneal involvement, it is a method to be used only in the worst cases—after peripheral nerve injections have failed to relieve the pain, or after numerous recurrences. Briefly stated, this method should precede the cutting operations, but should follow the nerve injections. It is hoped that with an improved technic and when corneal complications can with certainty be prevented, the new treatment will supplant all others.

REPORT OF CASE

If it is borne in mind that the indications for the performance of what I venture to call a "medical gasserectomy" are limited to those cases that do not respond to the older methods of treatment, it is not surprising that my personal experience is limited to a single case. The patient had received altogether about ten injections of alcohol into the peripheral nerves at the base of the skull, only one of which gave him relief, for about a month. A nerve avulsion operation performed on the first two branches of the trigeminus was practically without effect on the symptoms.

J. B., a colored chauffeur, was admitted to my service at the Cook County Hospital for the second time, Feb. 12, 1913. He complained of severe pains resembling in their intensity electric shocks and pins and needles; they were confined to the forehead and middle portion of the left half of the face, including the upper lip. The beginning of this trouble was noticed about nine years before after an acute illness, said to have been malarial fever. About four years ago he was given several injections of alcohol according to the Lévy-Baudouin method without relief. Several months later he again received several alcohol injections while a patient in the Cook County Hospital; this time the relief after one of the successful injections lasted an entire month. Dec. 29, 1911, nerve operations were performed over the frontal and infra-orbital foramina, showing two visible scars; the remedial effects, however, were invisible. Three months previous to his second admission to the hospital his condition had become aggravated; he no longer could open his mouth or wrinkle the forehead without bringing on a severe attack of pain. As a result of the patient's fear of pain, the buccal cavity had become foul and sordes had accumulated on the teeth. For the same reason he had for some time been unable to eat a full meal. An examination for organic disease revealed negative findings. The diagnosis of true trigeminus neuralgia was made, and the new treatment was suggested because of the many failures with the other methods. He was pleased to learn that there was some new procedure to follow besides undergoing a gasserian ganglion operation. My first injection into the ganglion was not successful, owing to faulty technic and a weak needle which broke during my first attempt, Feb. 20, 1913. One week later, however, I made a successful injection into the gasserian ganglion according to the technic as described in the previous portion of the paper. The two lower branches of the trigeminus had become completely anesthetic and the patient left the hospital free from pain.

Fearing the development of corneal ulceration in spite of prophylactic treatment for the eye, I hesitated to push the needle to the full distance of 1.5 cm., but was content to introduce it an additional distance of only 1 cm., rather than the prescribed limit. Further observation of this case will demonstrate whether it is always necessary to pierce the ganglion in its entirety. Additional experience with the new method will undoubtedly bring some modification of the technic.

32 North State Street.

Outline for Handling Venereal Disease Problem.—The general remedy in the venereal disease question, lies, as it does in so many other public health problems, in the education of the public. Teach the public to do away with false modesty and instruct the youth as to the facts of the origin of life and the prevalence of social disease. Distribute literature showing the relation of prostitution and venereal disease. Require the compulsory reporting of gonorrhea and syphilis to the health authorities as in the case of other serious infections and contagious diseases. Require an absolute clean bill of health from both parties, or the men, at least, before marriage can be celebrated. Rigidly enforce the laws of state and nation regarding prostitution in general.—E. F. McCampbell in *Monthly Bulletin*, Ohio State Board of Health.

PUZZLING GASTRO-INTESTINAL SYMPTOMS

REPORT OF A CASE

EDWIN D. WATKINS, B.S., M.D.
MEMPHIS, TENN.

This case is reported because of its puzzling nature and because of its apparently anomalous findings.

Patient.—W. W. J., aged 7, the first child of his mother, reared under the best hygienic surroundings, has always been delicate. During infancy he had dysentery almost constantly, the stools often numbering twelve to twenty in twenty-four hours, and often containing mucus and blood. He received only his mother's breast-milk up to 18 months of age. This he often vomited immediately after nursing. The dysentery continued for five years, gradually subsiding. Since then the patient has been constipated, requiring regular catharsis.

At the age of 2 years he began to have attacks of so-called "cyclic vomiting." The attacks would be ushered in by a mild tonsillitis or some exposure to cold or wet. He would then begin to vomit, first ordinary stomach contents with a little bile, then a fluid almost like water with brownish flakes floating in it. Everything ordinarily given to stop vomiting proved useless. A teaspoonful of water would precipitate an attack during which from 8 to 9 ounces of fluid would be projected from the stomach. When everything was withheld, he vomited every thirty minutes.

During these attacks the patient would lose weight rapidly, becoming alarmingly emaciated. They at first lasted one or two days when the vomiting would cease and he would regain his flesh and strength gradually.

The attacks occurred about four times a year, and each seemed to be worse than the preceding. The last one, in December, 1912, was so severe that a fatal termination was anticipated.

Between the attacks he looked fairly well but never robust and healthy, as one would expect a child to look who was reared with every care and had robust and healthy parents.

This patient came under my care in November, 1911, when he had one of these attacks following a mild tonsillitis. At that time he was ill four days after which the vomiting stopped and feeding could be begun. Since that time I have attended him in many of the attacks.

During my observation of him at these times there was always constipation with distention which had to be treated by enemas alone on account of the stomach sensitiveness. There was never diarrhea. He sometimes complained of slight pain across the abdomen about the level of the umbilicus. There was never tenesmus. The temperature ranged about 102 F. for three days. The mouth was dry and the teeth became covered with sordes. The lips were dry and cracked. The expression was apathetic. Dark bluish coloration appeared under the eyes with the onset of the vomiting, and did not entirely disappear between the attacks. The pulse was weak and rapid, being as high as 160 at times.

The clinical findings were always unimportant. The blood-count on several occasions showed from 8,000 to 12,000 total leukocytes, with 74 to 78 per cent. polynuclears. One examination in January, 1912, showed 3.5 per cent. eosinophils. Examination of the stomach contents on several occasions showed free hydrochloric acid 15 to 18. The urine contained a trace of albumin during each attack, the albumin persisting for four or five days after the subsidence of the vomiting. Microscopic examination was always negative. I never found indican in the urine although I made the tests for it sixteen times.

An attack in October, 1912, was ushered in by a severe chill which continued an hour. The temperature rose to 103 F. The spleen was palpable for three days. Vomiting commenced on the second day and continued for four days. Emaciation was extreme. Vomiting was not as frequent as in former attacks.

The last attack, in December, 1912, lasted two weeks and was the worst of all. On the second day the patient's heart and pulse became very irregular, this irregularity continuing for six days. There was a heavy cloud of albumin in the urine; microscopic examination was negative. The vomiting was worse than usual, coming on oftener and persisting longer than formerly. For two weeks vomiting would be precipitated by introducing anything into the stomach. Emaciation was extreme. Convalescence was slow.

The only thing that ever produced any beneficial effects on the vomiting was normal saline by rectum, one pint being given every three hours. This worked better than anything else up to the last attack when nothing did him any good.

After the last attack the patient was slow in regaining his strength and looked weaker than ever before. The usual dark coloring under the eyes was much more marked.

Examination of Feces.—In January, 1913, I realized that I had made no examination of the stools of the patient and called for one to be sent to my office. It was sent on a cold day, placed in the laboratory at 9 a. m. and I examined it at 1 p. m. The specimen consisted of two hard lumps of dark fecal matter. I took up a sterile platinum loopful of the feces and mixed it with a drop of sterile distilled water on a slide, put it on a cover-glass and examined it with 4 mm. objective. Nothing was warmed in preparation of the specimen.

Immediately my attention was attracted to an organism resembling the *Entamoeba histolytica.* There were two or three in a field. After a few field changes I found one moving. I made certain that the movement was not due to currents in the fluid. The pseudopoda were thrown out and the whole organism followed. The organism was about 30 microns in diameter. The ectosarc was clear while the endosarc was granular and contained leukocytes and pigment. The nucleus could not be discerned. I then found five motile organisms in the specimen on the slide and many immobile ones. There was no doubt about their motility. In some of them a faint nucleus could be seen. Two subsequent examinations two days apart showed the same findings.

Treatment.—Unfortunately for verification, but fortunately for the patient, I immediately commenced treatment directed against the ameba. Colon irrigations of silver phosphate, copper phosphate and quinin phosphate were commenced. The bowel first emptied by catharsis and enema was irrigated with solution, the hips being much elevated and the solution held as long as possible. This was done twice a week. There was no ill effect from the treatment.

Results.—After the first two treatments the child began to look better. The dark coloration under the eyes disappeared. His appetite became normal and he acts and feels better than at any time in his life.

On March 2, 1913, I was called to see him. He had a typical acute tonsillitis with temperature 102.5 F. The tonsils were covered with spots. Local treatment was instituted and the patient was allowed liquid diet. In three days the tonsillitis subsided and the patient was allowed a more liberal soft diet. In five days he was well. At no time was there nausea or vomiting. He was cheerful throughout the illness. Convalescence was rapid and subsequently nothing has developed. Later he had another attack of tonsillitis through which he passed without a symptom of the usual "cyclic vomiting." He has also had a rather extensive herpes zoster without any gastric disturbance. The boy has gained in weight and looks really robust and healthy.

This case has been a puzzling one. It is hardly conceivable that the protozoon found alive in the constipated bowel movement was the *Entamoeba histolytica.* Yet the morphologic characteristics correspond with no other protozoon that I know of that has been described as an inhabitant of the lower bowel. I do not think that what was found could be the *Amoeba coli* Lösch, on account of its size, the absence of the pigmented nucleus and the rapidity of its movements.

Three subsequent examinations of the stools, nine weeks after beginning the treatment, showed no sign of the organism found before treatment was begun.

The undoubted improvement in the boy's condition, and especially the fact that he passed through an attack of tonsillitis without developing the usual "cyclic vomiting," a hitherto unknown occurrence, lead all who have considered the case to believe that the cause of the attacks of vomiting has been reached.

There are several possibilities to be considered. The ameba found in the stool may have been the cause, and the treatment directed against them has eradicated them or rendered them inactive. On the other hand, the amebas may not have had anything to do with the attacks of vomiting and the treatment may have affected some entirely different trouble still unknown. Moreover, the recovery from the tonsillitis without an attack of vomiting may have had nothing to do with the treatment directed against the ameba.

The treatment directed against the ameba, however, has produced such striking results that I am led to believe that the amebas must have had a causal effect on the attacks of vomiting and on the boy's general condition.

My only regret is that I did not have some of my colleagues see the amebas with me.

Memphis Trust Building.

BENIGN MELANOSIS; A SUPPLEMENTARY REPORT.

J. CLARK STEWART, M.D.
MINNEAPOLIS

In June, 1907, I reported[1] "A Case of Benign Melanosis" before the Section on Surgery of the American Medical Association at Atlantic City. Briefly:

> A laparotomy in 1892 exposed a right ovarian cyst, black in color, and multiple small nodules studding the peritoneum. The operation was abandoned, a diagnosis of melanosarcoma made and several of the small nodules were removed. These nodules proved to be not melanosarcoma, but cysts containing very dark material which showed no cells capable of taking a stain. During convalescence the patient's urine, milk and sweat were deeply pigmented, but she made a good recovery. In 1895, the patient passed through a normal confinement and was delivered of a healthy child. At this time the milk and urine again became black, the condition lasting only a few days.

In view of the extreme rarity of this condition the subsequent history is of great interest:

> The patient remained well in every way up to 1909, when, after the establishment of the menopause, she began to suffer from pressure symptoms in the right side. An examination showed increase in the size of the original right-sided cyst, and observation showed that it was continuing to increase in size. At this time she was operated on by Dr. W. J. Mayo and a large cysto-adenoma of the ovary found with extensive adhesions. A smaller cyst was removed on the left side. The pathologic report, which I have by the kindness of Dr. L. B. Wilson, is malignant ovarian cyst, the malignancy being entirely inside of the cyst. Recurrence ensued, and a second operation was done by Dr. Mayo in July, 1912, the report being "carcinomatous cyst which had ruptured growing from the right surface in the cavity of the mesosigmoid, discharging some of its contents into the peritoneal cavity. No other secondaries. Large amounts of free fluid in abdomen."
>
> She died March 7, 1913, of exhaustion due to recurrence of the malignant growth.

Dr. R. O. Beard, whose patient she was and who was present at all the operations, says it was interesting to note that at the second operation, occurring about twenty years after the first, the pigment masses, which were so numerous over the peritoneal surfaces, and all pigmentation in the primary growth had disappeared. Indeed, so complete was the disappearance of the former melanotic conditions that Dr. Mayo paused in his operation to inquire whether I was positive that this was the former melanotic case described.

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[1] The Journal A. M. A., July 20, 1907.

The after-history of this unique case shows that I was correct in my original report in stating that the case could not be delayed malignancy in melanosarcoma. The patient lived over twenty years after the original operation, and died of cancerous change in an ordinary ovarian cyst, which showed no indications of pigment, under Dr. Wilson's careful study. No light is afforded by the subsequent history or the pathologic findings at the operations bearing on the condition of melanosis, and the case must remain on record as benign melanosis, a unique condition of unknown etiology.

616 Syndicate Building.

AN EYE LESION FOLLOWING TWO INTRAVENOUS INJECTIONS OF SALVARSAN, BUT RELIEVED BY ITS FURTHER USE

HAROLD J. LEVIS, M.D., ROCHESTER, N. Y.

Previous History.—The patient, A. M., a man aged 22, in whom a primary lesion appeared in March, 1912, first consulted a homeopathic practitioner, who dispensed tablets of the protoiodid of mercury. After three weeks' use of this drug, the patient became badly salivated and consequently stopped mercurial treatment. He was then advised by a layman to treat with a certain Detroit physician, who, he was told, would cure him without the use of mercury. His adviser said that the father of this physician had "cured" him about twenty years before without mercury. The patient wrote to the Detroit physician, who replied that he could furnish any number of testimonials concerning the efficacy of his treatment, which he guaranteed contained no mercury. I found this claim to be untrue. A graduate pharmacist made a partial qualitative analysis and found that the preparation he used did contain mercury. The patient at this time showed three visible lesions by which he would be able to judge the efficacy of his treatment. He took two 8 ounce bottles for which he paid $13.20, including the expressage. He received no benefit whatever.

Treatment and Course.—The patient consulted me, June 10, and I administered 0.6 gm. salvarsan intravenously. Four days later the three visible lesions of the disease had vanished. Twenty-three days later he was given a second injection of like amount. At this time he showed not the faintest sign of the disease, and in spite of the fact that I advised him to persist longer in the treatment he did not present himself for a third injection at the appointed time.

I next saw the patient August 31. He consulted me at that time concerning a congestion of the bulbar conjunctiva and photophobia, which he said had appeared about one week previously.

It seemed improbable to me at that time that these symptoms could have been caused by the disease so soon after the two injections of salvarsan. I prescribed non-specific treatment and for the following two weeks was absent from the city. September 20, when he next consulted me, the congestion had disappeared and to all outward appearances the eye was normal. But at this time a diminution in vision was beginning to manifest itself in the eye previously affected.

I then told the patient that I thought the trouble was due to his disease. He could not be convinced that such was the case, and as he had heard that arsenic was prone to cause optic atrophy he said that his poor vision was due to it. In reality the trouble was retinitis. It was impossible to make him believe he was wrong until I told him that if his poor vision were due to arsenic, it should be bilateral, since arsenic would be distributed just as much to one optic center as to the other. This convinced him, and he agreed to a third injection, but not before vision in the affected eye had fallen to 3/100.

The patient took his third injection November 15. In four days his vision had improved to 15/50. One week later it was 15/40. When he appeared for his fourth injection, December 6, his vision was 15/30. Early in April, 1913, the patient had taken nine injections and at the time he took his ninth injection his vision had improved to 15/20.

This case is of interest to me because there is a possibility that some practitioners would have agreed with the patient and called the trouble optic atrophy and given a grave prognosis. In this way one case of optic nerve trouble would have unjustly been credited to salvarsan.

It also shows that salvarsan is not contra-indicated in active syphilitic eye disease, as many believe.

660 Lake Avenue.

MEATOTOMY: A SIMPLE METHOD

SYLVAN H. LIKES, M.D., AND
HERBERT SCHOENRICH, M.D., BALTIMORE

Now that the fact is being more universally recognized that many of the chronic urethral discharges are due to more or less extensive infiltrations of the urethral mucous membrane, and that these infiltrations can be removed only by sufficient dilatation to restore the caliber of the urethra to its normal dimensions, the operation of meatotomy assumes a more important aspect.

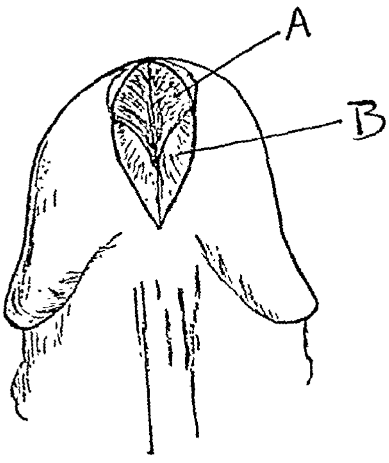

Fig. 1.—Retracted meatus after incision; *A*, urethra; *B*, raw surface after retraction of mucous membrane.

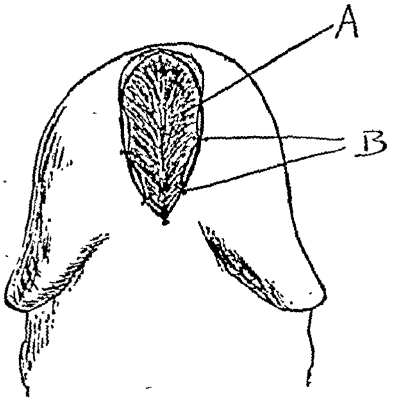

Fig. 2.—Retracted meatus after meatotomy. Note absence of raw surfaces. *A*, urethra; *B*, sutures.

There are many methods for performing this minor operation, but those described in the text-books and recent medical literature have many objectionable features. The idea in all of these methods is to control the hemorrhage at the time of the operation, as well as subsequently, by the employment of caustics and styptics and by the use of plugs and other mechanical contrivances to keep the lips of the meatus apart, thus preventing union of the cut surfaces.

In our experience, we have found that styptics and caustics invariably leave an ugly slough, prolonging the healing process, and that the resulting scar is disfiguring and the final result uncertain. The use of plugs to separate the cut surfaces is also bad, as when these plugs are removed for the purpose of urinating, bleeding is frequently produced and their removal is nearly always very painful.

Experience with these objectionable features has prompted us to describe a method which to us has proved most satisfactory for a number of years, and gives the patient the least possible amount of discomfort during the healing process; furthermore it has all the advantages of simplicity and freedom from bleeding and is practically painless at the time of and subsequent to the operation. It does away with plugs or other means to keep the cut surfaces apart and makes the use of caustics, meatotomes and all mechanical contrivances unnecessary.

After the usual aseptic precautions as regards cleansing the parts, etc., are observed, a few drops of a 0.5 per cent. solution of cocain, in a 1:3,000 epinephrin (adrenalin) solution is injected into the skin just below the meatus. A blunt-pointed bistoury is now inserted into the meatus and an incision is made straight downward in the median line on the floor of the urethra, the extent depending on the judgment of the operator. After this incision a picture as in Figure 1 will present. Next the edges of the skin and mucous membrane on each side are stitched together with No. 1 silk, requiring usually two sutures for each side (Fig. 2). This suturing of mucous membrane to the skin leaves no raw surfaces to give rise to troublesome bleeding, or possible agglutination and union of the cut edges. The site of the operation requires no further dressing other than a pad of cotton which may be entirely discarded after twenty-four to forty-eight hours. The stitches are usually removed in about five days but no attempt is made to dilate the urethra for at least fourteen days. We instruct the patient to separate the lips of the meatus at each urination.

Previous to the employment of this method, owing to the great discomfort experienced by the patient after meatotomy, we did not feel justified in making use of this operation as frequently as we should have liked, but now where we are able to assure the patient that the pain, annoyance and discomfort will be very slight, we no longer hesitate, for we believe that with a wide meatus so markedly facilitating the dilating process, one-half the battle is won in the cure of many chronic urethral discharges.

1134 Linden Avenue.

Special Article

BACTERIAL VACCINE THERAPY: ITS INDICATIONS AND LIMITATIONS*

(Continued from page 1299)

THEORETICAL CONSIDERATIONS

Bacterial vaccine therapy is designed to antagonize bacterial infections, either in advance of a disease (*protective* or *prophylactic,* illustrated by antityphoid inoculations), or after advent of the disease (*curative* or *therapeutic,* as by the use of staphylococcus vaccine in a patient afflicted with boils).

Vaccine therapy, although using artificial means, brings into action the natural processes for curing disease. No living, healthy animal organism passively permits itself to become the host of a harmful invading parasite. It resists actively, and the sum total of the factors which make up such resistance against harmful parasitism is known as *immunity.*[1]

In spontaneous infection with pathogenic bacteria the natural agencies of immunity are aroused, and if the invading bacteria are successfully antagonized, spontaneous recovery ensues. Such spontaneous recovery unaided by artificial agencies characterizes the self-limited infections. It is in these diseases with a tendency to spontaneous recovery that vaccine therapy is chiefly employed. If this fact were borne in mind, undue enthusiasm would be checked by a saner estimate of the part played by the treatment.

VARIETIES OF IMMUNITY

Fortunately man is endowed with a *natural immunity* against certain diseases; he is not subject to attack by certain pathogenic bacteria (for example, the germ of chicken cholera). In other cases an *acquired immunity* is obtained by recovery from an infection (such as small-pox), or artificially produced (as by vaccination against small-pox). Immunity is distinguished as active and passive. Immunity is *active* when the body, in response to the introduction of infectious germs, achieves protection by producing its own antibodies; it is *passive* when, so to speak, ready-prepared immunity or protection is forced on it, as seen in the use of antidiphtheric serum (antitoxin of diphtheria) in which the antibodies formed in the blood-serum of another animal have been utilized.

ANTIBODIES

As an outcome of the state of immunity, the fortunate individual becomes the possessor of a variety of protective substances commonly spoken of collectively as *antibodies,* which circulate in the blood, or reside in the organs, tissues and tissue juices. Many such antibodies have been demonstrated by recent researches, and those of a defensive nature include *antitoxins,* which act by neutralizing the poisons of bacteria, *bacteriolysins,* which destroy bacteria, and *opsonins,* which in some way alter bacteria and make them more easily a prey to certain defensive body cells or phagocytes.

ANTIGENS

In contrast to these agents of active immunity are the *antigens,* which are substances that stimulate the production of antibodies. The poison or toxin of the diphtheria bacillus used to stimulate the production of diphtheria antitoxin is an antigen; bacterial vaccines, living or dead are antigens.

FACTORS OF ACTIVE IMMUNITY

Let us consider how recovery is secured in a case of infection with pathogenic bacteria. Under the stimulus of the presence of the bacteria, or their products, in the body, the whole organism is aroused to the production of an active immunity through the formation of antibodies capable of neutralizing the poisons of the invading bacteria, or of destroying the bacteria themselves, or of stimulating the phagocytes to dispose of them. If the production of these antibodies is sufficient the blood is freed from the bacteria and their poisons, local foci of disease heal, and the infected person fully recovers. Thus in the case of pneumonia, the toxins absorbed into the blood from the lungs circulate to all the tissues and excite the participation of the whole organism in the struggle against the pneumococci until a sufficient amount of antibodies is formed to counteract the toxins in the blood and further to overcome the infection in the lungs. In this case the patient recovers; if the production of antibodies is insufficient he succumbs to the poison of the disease and dies, or lingers with chronic infection.

In some other cases of infection, while the stimulation of the organism results in the production of sufficient antibodies to counteract the general poisoning, the organism is not sufficiently sensitive to the antigen to produce the antibodies necessary to eradicate the local disease. This is well illustrated by latent or torpid tuberculous lymph-nodes. The bacteria in the lymph-node are in a state of siege, but not overcome by the insufficiently developed immunizing powers of the general organism. In this situation the system is sometimes aroused to efficient action by the escape of bacteria or toxins from the local focus. Such an invasion of the blood by bacteria or toxins is termed a self-inoculation or auto-inoculation. The aroused organism now produces antibodies which destroy not only the bacteria and toxins in the blood, but also those in the local infected focus. To reproduce this natural process, to accomplish by artificial inoculation what is thus secured by auto-inoculation, is the ideal aim of therapeutic immunization. Therapeutic immunization by the agency of bacterial vaccines—that is, vaccine therapy—represents such an effort.

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* This series of articles has been prepared under the direction of a committee appointed for the purpose by the Council on Pharmacy The commit- and Chemistry of the American Medical Association. tee consists of Drs. Ludvig Hektoen, Chicago, David L. Edsall, Boston; John Howland, Baltimore; Reid Hunt, Washington, D. C., and Albert P. Ohlmacher, Detroit.

[1] It is obviously impossible in the present series of articles to consider at any length the subject of immunity with its ever-growing complexity. The student who would approach applied vaccine therapy with a fuller knowledge of this subject should consult the special works, of which Ricketts' "Infection, Immunity and Serum Therapy" may be cited as a type.

Various factors, some known, others still not understood, contribute to the failure of spontaneous auto-inoculation. Bacteria may multiply so rapidly and produce so overwhelming an intoxication as to cause death. Another element of great importance concerns the still little-understood matter of virulence of the invading bacteria, by which the pathogenic potency differs widely not only as regards species but even within a single species.

VARIATION IN BACTERIA

Besides the virulence which characterizes certain bacteria as to species, wide variations seem to exist among the so-called "races" or "strains" of a given species. Take as an example the diphtheria bacillus: different races or strains of this species vary greatly as to the production of a potent toxin. In fact, it is only an exceptional strain from which it is possible to secure the intense toxin required to produce the highly antitoxic serum of the present day. Races or strains in bacterial species vary not only in virulence but also in many other biologic characteristics: furthermore, it appears that biologic characteristics of the varieties of a bacterial species are not fixed, but alterable, under both natural and artificial conditions of environment. This is shown, for example, in the unexpected return of fatal virulence in a strain of bacteria used for immunizing purposes and supposedly non-virulent or only slightly virulent. This is, perhaps, an opportune juncture at which to emphasize the fact, now apparently lost to sight in this day of indiscriminate usage of bacterial products, that virulence and many other important life phenomena of disease-producing bacteria are still far from thoroughly understood, even by the most industrious and talented of special workers in the field of microparasitology.

OPSONINS

A clear conception of opsonins is extremely important to the student of vaccine therapy. In their first paper Wright and Douglas showed that by the action of the blood-serum bacteria are rendered a ready prey to the phagocytes. They spoke of this as an opsonic effect (from ὄψον, "seasoning," "sauce," because the opsonins are supposed to make the bacteria more appetizing to the phagocytes), and they employed the term "opsonins" to designate the elements in the blood-serum which produced this effect. Phagocytosis depends on the presence of whole blood or blood-serum. Leukocytes washed free of serum ingest few if any bacteria when mixed with an emulsion containing them. To demonstrate the presence of opsonin, a suspension of bacteria (alive or dead) is mixed with washed leukocytes and incubated. Imperfect phagocytosis or none at all results. A similar mixture of bacterial suspension and washed leukocytes, plus serum, is prepared and incubated. Phagocytosis is found to have taken place when a portion of such mixture is examined microscopically as a stained preparation. By enumerating the bacteria ingested in a certain number of leukocytes, and dividing to obtain an average, the so-called *phagocytic index* is obtained. The phagocytic index of the patient divided by the average phagocytic index of a number of normal persons gives the *opsonic index*.

OPSONIC INDEX AND VACCINE THERAPY.

In his earlier work Wright and his associates laid great emphasis on the importance of the opsonic index as furnishing an indication for vaccine therapy, and, when inoculations were instituted, as a guide to size of dose and interval between doses. That this procedure, in skilled hands, has real practical value can hardly be doubted when one notes the clinical results obtained by Wright and his co-workers. But vaccine therapy can be prosecuted without the guidance of the opsonic index, provided other essential factors like the nature, dose and dose-interval of the vaccine be correctly ascertained. This is not to say that so fundamental a procedure as valuation of opsonic power can be entirely discarded at present; indeed, it is to be regretted that the ability to make an opsonic index is not held a prerequisite to the practice of vaccine therapy, for this would assure for the practitioner a first-hand technical knowledge of paramount importance. And in certain obstinate infections in which therapeutic bacterial inoculations have failed, the study of the opsonins may furnish a valuable clue to the cause of failure. Still, as a routine, it may be dispensed with

In the therapeutic use of a bacterial vaccine, Wright was able to substantiate by means of the opsonic index the *phases of reaction* which had previously impressed him in studying antityphoid inoculation. For instance, in the first period of from twelve to twenty-four hours after an inoculation the opsonic index fell below the previous level—a phenomenon defined by Wright as the *negative phase* of immunizing response. After an interval of two or three days a rise of opsonic power, the *positive phase*, was witnessed. In a series of therapeutic inoculations, after the fluctuations of the positive and negative phases, there comes a point of sustained positive phase — the "sustained 'high tide' of immunity," as Wright calls it.

(*To be continued*)

No Compromise Permissible in Medical Advertising.—There can be no compromise in medical advertising. The example is bad. If the prominent men do it, the less-known will get into print as soon as they can raise the price or work up enough pull with a magazine writer. Let there be no mistake on this point. Educating the public on general health problems and teaching them the lesson on how to live is the noblest duty of the physician. It is a duty that is self-sacrificing and is indicative of the priestliness of the calling. Would that physicians were so situated that they could teach health from the housetops and street corners! But when a description and photographs of a physician and his pill cupboard or of a surgeon and his amphitheater and instruments appear in public print, it is as if they are courting public patronage.—B. Joseph in *Vermont Med. Monthly.*

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, MAY 3, 1913

SOME FEATURES OF UNDERDEVELOPMENT

Professor Rubner of Berlin has pointed out that the problem of growth involves two important and distinct factors. One of these is the nutrition element, without the satisfactory provision for which suitable growth is obviously impossible; the other factor is an inherent capacity to grow—the growth *impulse* or *Wachstumstrieb*, as it has been termed. Either of these may be upset in such a way as to inhibit development. In view of the increasing interest in the different forms of retarded growth and cessation of the normal developmental changes it has become more and more important to distinguish the causes which underlie these pathologic manifestations. Distinct types of so-called infantilism are now clearly defined by the clinical observer. The undersized adolescent, the dwarf and the cretin have little in common in the way of known abnormality aside from the eccentricities of stature and proportions. Yet the underlying causes of these defective conditions are for the most part unknown.

So far as the failures to grow are centered in perversions of nutrition they are likely to be more amenable to experimental elucidation than are defects which are associated with some obscure inborn imperfection of the organism. Inherited anomalies modifying the functional behavior of the body cells are rarely capable of direct control or modification. They are as fundamental as are familiar hereditary traits of character behavior and appearance. Disturbances of nutrition, on the other hand, may be acquired from invasion of the alimentary tract by undesirable organisms, from an unsuitable diet, or from chemical or physical injuries; and they may be remediable when once their origin is detected.

The late Professor Herter of New York published an admirable study of one type of retarded growth, to which he applied the designation "intestinal infantilism."[1] This pathologic state of childhood is marked by a striking retardation in the growth of the skeleton, the muscle and the various organs, and is associated with a chronic intestinal infection characterized by the overgrowth and persistence of bacterial flora belonging normally to the nursling period. The chief manifestations of intestinal infantilism are arrest in the development of the body; maintenance of good mental powers and a fair development of the brain; marked abdominal distention; a slight or moderate or considerable degree of simple anemia; the rapid onset of physical and mental fatigue, and irregularities of intestinal digestion resulting in frequent diarrheal seizures. Clinical features of secondary importance are excessive appetite, various minor signs of nervous instability, a subnormal temperature, cold hands and feet and slight signs of rickets.

In the pathology of such conditions two leading features obviously call for explanation: first, the retardation of growth; second, the chronic intoxication. The retardation of growth can apparently be explained on the basis of the imperfect absorption of nutritive material easily demonstrated in these cases. Herter believed that the intoxication which is so prominent a feature of intestinal infantilism at its height may be ascribed to the action of putrefactive products of intestinal origin on the central nervous system and muscles.

The hope of rational therapeutic interference to reestablish or reinforce the processes of growth presupposes a more exact knowledge of the nutritive factor. For valuable information in this direction we are indebted to the painstaking researches of Dr Francis H. McCrudden[2] of the Rockefeller Institute Hospital in New York. He has investigated the metabolism of a number of dwarfed individuals of different types and compared the results with the data furnished by healthy children. The examination of the urine in respect to the partition of the nitrogenous and sulphur-yielding components gave no evidence of a departure from the normal. Despite this fact, the frequent and protracted intestinal disturbances in some of these patients, and the occurrence of voluminous stools of highly fecal character with an unusual content of nitrogen, continually renewed the suggestion of inanition induced by such losses through the bowel as an explanation of the retarded growth. The possibility of loss of protein by undue putrefactive change or improper digestion always loomed up. Every attempt to find a justification of the undernutrition hypothesis so far as the nitrogenous intake was concerned failed to reveal any adequate explanation in this direction. It has become more and more certain that no abnormality of the digestion, absorption or assimilation of either proteins, fats or carbohydrates was involved in the types of infantilism investigated. The general nutritive condition of the soft tissues was satisfactory. The metabolism of energy as revealed by calorimetric observations was normal. Inanition or undernourishment in the usual sense was not the etiologic factor here concerned.

In certain of the types, however, anomalies in the metabolism of calcium have come clearly to light. Lime disappears almost completely from the urine, while it is lost in large amounts with the stools. The cortical portions of the bones of these children are peculiarly thin and delicate, as revealed by the Roentgen-ray examination. Since no evidence of an impairment of kidney functions is at hand which would explain the failure of the urinary excretion of calcium in these cases, it must be assumed either that the calcium circulates in some form unavailable for bone development, or that the blood is very deficient in this element. The latter hypothesis, which is substantiated by the large losses of calcium with the feces, seems the more probable. The blood must be deficient in calcium in these cases in which the clinical investigation has revealed an underdevelopment and fragility of the bones; whereas the other cases of retarded development show normal bone structure, and fail to disclose a perverted metabolism of calcium so far as its normal excretion in the urine and the positive lime balance in the body can indicate.

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[1] Herter, C. A.: Infantilism from Chronic Intestinal Infection, New York, 1908.

[2] A summary of the papers, several of which have appeared in the Journal of Experimental Medicine, 1913, will be found in the Deutsches Archiv für klinische Medicin, 1913, cx, 90.

The two types of dwarfing included in McCrudden's studies exemplify the rôle of the two fundamental factors in growth to which reference was made above. In the one series, with delicate bones and low metabolism of calcium, the inability to grow apparently arises from the failure of a sufficient supply of this element to satisfy the requirements of normal skeletal development. The soft tissues and organs grow as rapidly as the skeleton, and the latter as rapidly as the supply of building materials—the lime salts—permits. In fact, the skeletal growth may be even more rapid than what the production of strictly normal bones would call for. In the other type of underdeveloped individuals there is no apparent dearth of available nutriment. Here the inability to grow appears rather to be associated with a failure of what has been spoken of as the growth impulse or inherent capacity to grow.

A high degree of mental development is not incompatible with the condition known as intestinal infantilism. Perhaps the discovery of the fundamental defect in calcium metabolism will lead to the introduction of remedial measures whereby the lagging skeletal growth can be compensated for, so that a permanently undersized individual need not result. The ideal of development is indicated in the perfect correlation of mind and body: *mens sana in corpore sano.*

THE PREVALENCE OF THE MORPHIN AND COCAIN HABITS

The researches of Martin I. Wilbert and Murray Galt Motter[1] into the legal enactments which have to do with the control of the sale of opium and cocain in the several states show that there is a most extraordinary lack of uniformity in the requirements in different parts of the country. Thus, in many states antinarcotic laws are so comprehensive that were an attempt made to enforce the law literally it would result in the fine or imprisonment of practically all the retail druggists. On the other hand, there are some states in which the exceptions and provisos to the law are so numerous as practically to nullify all efforts to control the traffic in narcotic drugs.

Although in most of the states there is some legislation which aims to abolish the evil, it is all of comparatively recent date, and has not kept pace with the increase in drug addiction. Commenting on this increase, the President of the United States in a recent message[2] says: "The enormous misuse of opium and other habit-forming drugs in the United States may be attributed to several causes: carelessness or ignorance on the part of the people; to ineffective state laws as well as the inability of the states with good laws to protect themselves against the clandestine introduction of the drugs from neighboring or distant states, and therefore in a larger sense to the lack of control by the federal government of the importation, manufacture and interstate traffic in them." Lack of federal control resulting in various conflicting state laws, or more properly speaking in giving rise to such a diversity of laws that stringency in one state can be overcome by ordering by mail from another state where the laws are less stringent, is undoubtedly the chief reason why our country compares so unfavorably with European countries in respect to the prevalence of morphin addiction.

Since 1860, when the various forms of opium and its alkaloids were separately enumerated in the tariff schedules, there has been an increase of 351 per cent. in the importation and consumption of all forms of opium, as against an increase of 133 per cent. in the population. In the United States during the last ten years there has been an annual importation and consumption of opium of over 400,000 pounds. Austria-Hungary, with a population of a little less than half that of ours, consumes annually less than one-hundredth this amount of opium. Germany with sixty million inhabitants consumes only about 17,000 pounds annually, while in Italy with thirty-three millions there is an annual consumption of only about 6,000 pounds. The appalling discrepancy consists in the fact that the most reliable authorities are agreed that one-eighth the amount of opium imported into the United States would amply suffice for the legitimate medical needs of our people. This country manufactures into morphin fully 300,000 pounds of the annual importation, and it is estimated that 80 per cent. of the morphin is used by victims of the habit.

When we consider cocain, the situation is no less alarming. Köller first introduced this drug to the medical profession in 1884. Thirteen years later was enacted the first legislation in the United States which strove to prevent the indiscriminate sale of the drug. In 1897 Illinois passed a law which made it unlawful to give or sell any cocain or preparation containing cocain in any form except on prescription of a physician or dentist. The impracticability of all the legislation since that time is evidenced by the fact that although cocain is a drug which is utterly useless except in the hands of the physician or dentist, and should never be prescribed for continuous use under any circumstances even by them, there has nevertheless been such a steady increase in its use that it is now reliably estimated that its illegitimate use alone exceeds 150,000 ounces every year.

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[1] Wilbert, Martin I., and Motter, Murray Galt: Digest of Laws and Regulations in Force in the United States Relating to the Possession, Use, Sale and Manufacture of Poisons and Habit-Forming Drugs, Pub. Health Bulletin 56.

[2] Senate Document 736, third session, Sixty-First Congress.

A consideration of the evils attendant on the use of morphin and cocain alone should tend to convince the most ardent advocate of states' rights that legislation regulating the sale of all dangerous habit-forming narcotics should be national in scope and absolutely uniform throughout the country. In matters which affect the health of the nation at large the laws should be made by Congress, and their execution should be in the hands of federal rather than state authorities.

CHEMOTHERAPY OF TYPHOID

Recently we called attention[1] to the studies which are now under way in an attempt to apply to bacterial infections the principles of chemotherapy, so far successfully worked out only with protozoan diseases. Most of the work so far reported on bacterial chemotherapy has concerned the pneumococcus, as yet with encouraging but not startling results. In line with this work is an exhaustive review of the attempts so far recorded to secure a chemotherapy for typhoid, compiled by Berger,[2] which show nothing but desultory trials on an empiric basis. The systematic study of typhoid infection from the point of view of Ehrlich's principles of chemotherapy has yet to be begun, for empiricism has done nothing for the cure of the infection. Typhoid, of course, is mostly a disease which communities elect to give themselves in payment for a comfortable amount of sloth and filth, and the curative aspects are much less important than the preventive. Recent reports, however, show that an important step has been made toward making experimental typhoid infection available for the experimenter who wishes to study its chemotherapy, and this is the development of a method for making animal typhoid carriers.

It has always been an obstacle in typhoid research that ordinary laboratory animals when inoculated with typhoid bacilli do not show any of the characters of typhoid as seen in man; they develop a septicemic condition readily enough, but not the characteristic lymphoid infection which, according to the studies of Coleman and Buxton, is responsible for the typical course of clinical typhoid fever. Blackstein and Welch,[3] however, observed that rabbits which had received intravenous inoculations of typhoid bacilli retained them for a long time in the gall-bladder, and Uhlenhuth and Messerschmidt[4] found that rabbits injected in the gall-bladder with typhoid bacilli became carriers for as long as six months, while Marxer made dogs typhoid carriers for four years by the simple expedient of imitating gall-stones by implanting in the gall-bladder pieces of cork impregnated with typhoid bacilli. By these methods there has been made available not only experimental material with which to study the important problem of making the typhoid carrier harmless, but also a test object some value in chemotherapeutic studies.

Uhlenhuth made various attempts to sterilize the typhoid carrier rabbits by means of chemotherapeutic agents, but all without success. Marxer also failed to rid his dogs of typhoid bacilli by either active or passive immunization, or by chemicals, although a partial result was obtained in that chloracetyl-salol and iodo-salicylic acid reduced distinctly the number of bacteria. We record these experiments as the first steps in an expedition into an unexplored but apparently promising territory.

THE MODERN TREATMENT OF DIABETES

Two recent papers[1] by physicians who have long been interested in the study of diabetes and the treatment of its manifestations must serve to awaken a hopeful attitude in those who have perchance allowed themselves to drift into a despairing mood in relation to this disease. Dr. Joslin has pointed out on the basis of his own extensive clinical experience in this field how much more satisfactory the management of diabetes has become through the rational dietotherapy which has been applied in the practice of recent years. When it is possible to report on diabetics of ten and even twenty years' standing, as he does, and to show the possibility of prolonging useful lives in cases that were once promptly despaired of or consigned to a fate of indifferent attention, the situation certainly shows progress.

Despite the occasional records of apparently good success attending the use of drugs in the treatment of the diabetic symptoms, Dr. Joslin has long contended—and with good reason, we believe—that no reports of this sort can begin to approach the evidence of reinforced health which the drugless therapy of diabetes has to offer when it is in the hands of those competent to advise suitable dietary measures. In fact, the reputed or actual improvement of patients who have exhibited the diabetic symptoms frequently takes them out of the care of the physician who instituted the therapeutic procedure. Relapses may occur and physical deterioration may return without the knowledge of those who act in a transitory capacity—which is so often the case in diabetes—as advisers to patients who respond favorably to medical suggestions. Adequate clinical and chemical histories, therefore, are admittedly inadequate in the case of diabetics who are not maintained in hospitals or sanatoriums and who consult physicians only at intervals when impending troubles send a forceful warning.

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[1] Chemotherapy of Pneumococcus Infections, editorial, THE JOURNAL A. M. A., Feb. 8, 1913, p. 447.

[2] Berger: Ztschr. f. Chemotherap., 1913, ii, 193.

[3] Cited by Gay, Frederick P., and Claypole, Edith J.: Induced Variations in the Agglutinability of Bacillus Typhosus, THE JOURNAL A. M. A., April 12, 1913, p. 1141.

[4] Uhlenhuth and Messerschmidt: Deutsch. med. Wchnschr., 1912, xxxviii, 2397; *abstr.*, THE JOURNAL A. M. A., Feb. 1, 1913, p. 404.

[1] Joslin, E. P.: Diabetic Standards, Am. Jour. Med. Sc., 1913, cxlv, 474. Lépine, R.: Fortschritte in der Behandlung des Diabetes mellitus seit 50 Jahren, Berl. klin. Wchnschr., 1913, l, 477; abstr., THE JOURNAL A. M. A., April 26, 1913, p. 1333.

Professor Lépine of Lyons has given an interesting review of the changes which fifty years have brought about in the knowledge and treatment of diabetes. Few practitioners of to-day realize that the favorable results of alkali therapy in this disease, which is now explained by its effect on the acidosis that forms a prominent symptom in certain stages of diabetes, were once ascribed to the supposed favorable influence of alkalies on the decomposition of sugars as exhibited *in vitro*. The rôle of acetone, or at least the present conception of the ketonuria and the causes of diabetic coma, is decidedly of recent interest. It was not long ago that the acetone was assumed to be derived from changes going on in the alimentary tract, and excess of meat in the diet, rather than faulty utilization of carbohydrate, was looked on as the causal factor. When at present, hoping by the retention of some carbohydrate to avert or lessen the ketonuria, some clinicians urge that carbohydrates should not be entirely excluded from the dietary of the diabetic, they are doing only what was advised by Bouchardat years ago on a purely empiric basis. That the combustion of fats is inadequate in the absence of carbohydrate metabolism is even more recent knowledge. The starving man shows ketonuria because he has no carbohydrate to burn; the diabetic exhibits the same symptom because he cannot burn the carbohydrate which is offered to him.

In the face of the well-demonstrated fact that bread is detrimental to the diabetic stand the paradoxic directions for the use of other cereals and tubers for the amelioration of the symptoms; and we have been assured, first by Professor Mossé of Toulouse, that there are diabetics who tolerate potatoes far better than bread. Von Noorden and his followers claim most unexpected therapeutic successes with oatmeal given in certain ways. Rice and analogous products have had less conspicuous champions. However contradictory such experiences may seem to be to accepted views regarding the general detrimental effect of high carbohydrate regimens on diabetics, there is in them in many cases an underlying element of success which we must attempt to explain rather than hastily to deny. Can it be that the occasional oatmeal or potato days profoundly alter the bacterial flora of the alimentary tract? Do they thus create conditions by which utilizable products of carbohydrate fermentation rather than the refractory sugar are offered to the diabetic organism to burn up? Or are the apparently good effects merely the expression of a lessened permeability of the kidneys for sugar so that, as has been maintained, less is excreted when certain natural dietary substances like oatmeal are ingested? Whatever the ultimate answer may be, these newer perplexing experiences have only enhanced the possibility of increasing the tolerance of the diabetic for carbohydrate—which is his greatest desideratum.

If there is unlike capacity to use different starchy foods in diabetes, the same variability may hold in respect to the different sugars. Of far greater promise is the prospect of finding a utilizable carbohydrate derivative (like the alpha-glucoheptonic acid lately proposed by Rosenfeld) which shall no longer meet the resistance in metabolism that the familiar sugars do in the diabetic. Drugs alone or combined with numerous unexplained or inexplicable devices of physical therapy have failed to "make good" in diabetes, except in so far as they may relate to purely symptomatic treatment or intelligent hygienic measures.

The incidence of diabetes has increased in many vicinities, or is perhaps more widely recognized than it once was; but we may probably fairly assert that the severer manifestations are less frequent. If diabetes is managed better by the clinician of to-day it is because his conception of the pathogenic factors is clearer and broader—because he has followed the suggestions of physiologic and pathologic research in nutrition and profited thereby. Accordingly it is possible to understand Lépine's contention that mortality in diabetes is not keeping pace with morbidity, because the best treatment of the disorder in these days represents a step in advance.

FRIEDMANN'S DISGRACEFUL PIECE OF COMMERCIALISM

Last November Friedrich Franz Friedmann read a paper before the Berlin Medical Society announcing that he had succeeded in producing a race of avirulent tubercle bacilli by which he claimed to be able to produce curative effects in all but the most advanced cases of tuberculosis, and to immunize children against the disease. Immediately there appeared in the newspapers of this country, and to a less extent in those abroad, sensational accounts of this new treatment. It was lauded as a discovery that was to banish tuberculosis from the world. This was the beginning of a most remarkable and—on the part of those who were responsible—disgraceful newspaper exploitation. This has been kept up until the present time. As one looks back one is forced to the conclusion that, from the beginning, it was a premeditated, well-arranged scheme of free advertising. The press-agents of this obscure bacteriologist certainly have done their work well.

Until it was announced that Friedmann was coming to this country, the medical profession was generous in ascribing to newspaper enterprise the advertising he was receiving; but as soon as it was announced that he was coming for the million dollars offered by a wealthy philanthropist, many became suspicious. He was a registered physician in Germany, with the right to use his remedy there. The German government fully secures to a discoverer by patent a monopoly of the financial benefits to be derived from his discovery. Germany certainly has as many sufferers from tuberculosis, in proportion to its population, as has the United States. If Friedmann has a remedy such as he claims, he could have secured in his own country financial returns which would have made him rich. In spite of this, he left his own land and came here; and his actions since he has been in this country have been such as to destroy any confidence which thinking physicians may have had in the man.

Now it is announced that a deal has been consummated through which he is to get a large sum of money immediately, with great prospects for the future. It is safe, therefore, for us to conclude that he has realized the ideal he had in mind when he landed on our golden shores. His complaint of non-recognition and jealousy on the part of his confrères in his own country and his expression of determination to seek professional recognition in an impartial land now appear to have been designed simply to allay suspicion until his real object had been achieved. Greeted with courteous open-mindedness by our profession, which determined not to disbelieve despite the suspicious circumstances until disbelief became inevitable, he seems also to have been received with open arms by shrewd and not too scrupulous promoters who were eagerly watching for a chance to reap a harvest in partnership with him. Unless there is some totally unforeseen governmental action, or unless some well-nigh impossible wave of skepticism sweeps over the land, it looks as if the sheaves of dollars to be wrenched from the wasted hands of the tuberculous would make a harvest which would outweigh the reapings of all the American quack remedies from Perkins' tractors to the worst nostrum of our time.

The American medical profession has listened to the claims of Friedmann with an open mind. It has waited patiently for him to prove his claims and to show his real intentions. To wait longer is now unnecessary. At present its most pressing duty is to lay the facts before the public through the agency by which Friedmann has so shrewdly secured the free advertising, from which he is preparing to reap his golden harvest. A united movement to warn the people on this important question will, we are sure, meet with a cordial response from the same agency—the American press. Even if it should ever merit scientific classification among the many more or less helpful methods of treatment, the sensational publicity that has been given this vaunted "cure" adds one more disgraceful chapter to the history of the exploitation of the sick for profit.

We can disregard the fact that the remedy is a secret one; we can ignore the unethical and dishonorable conduct of Friedmann as a physician; we can even forget the possible danger that lies in his treatment; we can let all this pass. But one fact stands out clearly and should be emphasized: Friedmann has presented no proof, no scientific evidence, clinical or otherwise, to justify the claim that he has developed a cure for consumption.

Current Comment

TETANUS FROM GELATIN

More than ten years ago Dr. John F. Anderson, the present director of the Hygienic Laboratory of the United States Public Health Service, called attention to the occasional presence of tetanus spores in samples of commercial gelatin.[1] The subject was investigated by him at that time because gelatin injections were being used somewhat extensively as a means of treatment for aneurysm and as a direct and prophylactic hemostatic. Instances of tetanus following the injection of gelatin in hemophilia and in other conditions had been recorded in the literature; and Levi and Brun of Strasburg reported that they had discovered tetanus bacilli in four out of six samples of gelatin examined. Anderson suggested that gelatin could easily become infected with tetanus spores while drying in the air during its preparation in conjunction with other procedures that go on in a large meat-packing house. Abderhalden, the well-known physiologist of Halle, has just recorded a typical death from tetanus in an experimental animal that had been maintained several weeks in a metabolism cage and fed with gelatin.[2] The case is one of exceptional interest inasmuch as no wound or injury which might serve as a portal of entry for the infectious agent could be detected after the most painstaking examination. Neither the mouth nor the remainder of the digestive tract disclosed any lesion whatever. It seems reasonable to suppose, therefore, that the infection was the outcome of the simple absorption directly from the intestine of tetanus spores present in the gelatin fed. So far as we know this is the first recorded instance of tetanus in which the intestine has been demonstrated to be the place of entry of the noxious organism.

THE MOVEMENT FOR A NATIONAL DEPARTMENT OF HEALTH

On another page[3] will be found a brief history of the efforts made by the American Medical Association in the past forty-three years for the establishment of a national department of health. A careful reading of this article will show that from the first there have been two distinct plans for securing a federal bureau or department. The first has been by the attempt to create a board, council, bureau or department, *de novo*, without relation to existing governmental activities; the second, to reach the same end by the gradual development and expansion of existing bureaus into a larger organization. These two methods, while differing in plan, have the same ultimate purpose, namely, the development of a government agency that will be devoted to the advancement of public health and the reduction of preventable diseases. Not merely is the final outcome of these two methods the same; they are not even antagonistic at any stage. There is no reason why the advocates of a great national department of health should refuse, while this desirable purpose is being advanced, to lend their influence and energies to strengthening and broadening the existing health organization. On the other hand, there is no reason why the advocates of the plan to develop the present bureau should fail to recognize the fact that a great independent national department of health is to be, must be, the ultimate outcome of their efforts to build up and strengthen the present machinery. In fact, instead of there being any conflict in aim or intention between these two plans, the difference is solely one of method and expediency. These two plans are not even necessarily alternative. They can both be carried on at the same time. While we are striving to secure a department we can also build up the existing bureau. While efforts are being made to broaden and strengthen the bureau, simultaneous efforts can be made to secure a department. The question, which plan, at present, offers the best chance of immediate results and of ultimate success, is not one of personality or of partisanship. It is purely practical, to be determined by calm and careful consideration, rather than by heated and partisan argument. Reading between the lines of the historical summary of this movement, one can readily detect the amount of personal antagonism and bitterness which has been injected into this discussion in past years. The time has gone by for such methods. Let us have, instead, a careful and dispassionate study of the facts, a calm and sagacious appreciation of the present situation and an agreement on a practical program which will offer the best chance of securing what is desired by all the friends of public health, namely, that unification of governmental activities which will best conserve the lives and the vitality of our people.

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[1] Anderson, J. F.: Presence of Tetanus in Commercial Gelatin, Bull. 9, Hyg. Lab., U. S. P. H. S., 1902.

[2] Abderhalden, E., und Lampé, A. Ed.: Weiterer Beitrag zur Kenntnis der Wirkung von Ammonsalzen, Glukosamin und Gelatine auf die Stickstoffbilanz, Ztschr. f. physiol. Chem., 1913, lxxxiii, 124.

[3] Medical Economics Department, this issue.

THE LARGER ASPECTS OF SANITATION

A great actor declared as essential to an ideal dramatic performance the interaction of three factors: a good play, enthusiastic actors, and a sympathetic audience. In like manner wonders could be performed in communal sanitation by the interrelation of sound science, able health officers, and an educated, right-determining public. Science has done her part; she has demonstrated that very nearly all infectious diseases (tuberculosis, typhoid fever, diphtheria and the rest) can be banished from human experience. Secondly, there are many health officials ready and anxious to consummate this enterprise; but there are too few of these; incidentally, here is one of the crying needs of the time, for the health officer holds the key of the public health situation. Thirdly, there is needed a convinced, loyal and cooperating laity. Dr. Doty[1] summarizes the *modus operandi* to these ends, and emphasizes also a coming and most beneficent phase of modern sanitation, that of disease prevention (with efficiency development) among the employees in our huge business aggregations. He would have constant supervision, by trained hygienists, of large numbers of working men and women collected in factories and the like. Thus epidemics would be detected in their incipiency, fewer persons would be involved, suffering would be diminished, death prevented, material loss avoided, and the general well-being secured. Corporations having in their employ hundreds or thousands of people should perfect some form of organization for instituting methods to insure cleanliness in both shop and home, fresh air, pure water and proper toilet arrangements, with early detection of infection, through careful observation and the isolation of those wage-earners who have been stricken.

WHY THIS AMENDMENT?

Paragraph 6 of Section 7 of the federal Food and Drugs Act says that a food shall be deemed adulterated:

> If it consists in whole or in part of a filthy, decomposed, or putrid animal or vegetable substance, or any portion of an animal unfit for food, whether manufactured or not, or if it is the product of a diseased animal, or one that has died otherwise than by slaughter.

A bill has been presented in the House of Representatives to amend the act by striking out the words "or vegetable" in this paragraph. Why this amendment? Of what value will it be to the public? Is it in the interests of those manufacturers who would sell putrid tomato pulp and other decayed vegetable matter as food? We are curious to know.

FRIEDMANN EVADING THE LAW

Dr. Friedmann's course, since he landed on our shores, has been one of constant evasion. His claims for his treatment rest solely on his own statements. He has not qualified as a physician in New York or Rhode Island. He has failed even to answer the letters of the officers of the Public Health Service. He has persistently refused to furnish any proof of the claims made for his preparation. Now comes the most startling development of all. According to newspaper reports, branch "institutes" are to be established in every state by a syndicate, formed by Dr. Friedmann and his promoters. Each "institute" will make its own serum or culture, or whatever Dr. Friedmann's remedy is. Thus, by a technicality, he will evade the federal law which, for the purpose of protecting the public against impure and dangerous serums and vaccines, places all these preparations which are subject to interstate commerce under the control of the Public Health Service. State laws are slow of enactment and slower of enforcement. This plan will sweep aside the strong arm of the Public Health Service, which otherwise would protect the unfortunate consumptives. It will allow the promoter to make and sell to the victims of disease, at any profit he sees fit, a secret product, the value of which rests entirely on Friedmann's unsupported statements. Suppose an American physician went to Berlin with unproved claims for some new treatment of consumption. Suppose he refused to produce proof of his statements, refused to submit his remedy to other scientific men, attempted to evade the German laws, disregarded German officials and, finally, through a legal technicality, planned to bleed the German consumptive of his scanty means by selling him a preparation of unproved value and possible danger? Would the German people permit their sick to be the victims of such a scheme? Why did Friedmann come to the United States? Because we have, in Europe, the reputation of being "easy." Because this country is supposed to be the home of the get-rich-quick promoter. The American people have no respect for the man who uses legal technicalities for profit or to escape punishment. Will the American public and the American press tolerate this attempt to make our unfortunate consumptives a source of gain for a rapacious foreigner, promoting a remedy of unproved merit in violation of the spirit of our laws?

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[1] Doty, A. H.: Modern Sanitation, North Am. Rev., November, 1912.

A GOOD PRINCIPLE TO APPLY

"No physician has a right to employ any uncertain and possibly dangerous remedy in the treatment of disease in human beings until he knows all that anybody knows concerning its composition, character and action." This, from the leading editorial in a recent issue of *American Medicine,* expresses just what The Journal has believed and said for years and what The Journal has never expressed better. The sentiment occurs in a dicussion of Friedmann's remedy for tuberculosis, but evidently it is meant to have a general application. Reasoning from this basis, one might be surprised to find in the advertising pages of the same issue of *American Medicine* such products as Phenalgine, Sanmetto, Bannerman's Consumption Cure, Campho-Phenique, Anasarcin, Sal Hepatica, Phenol-Sodique, etc. All of these are "uncertain and possibly dangerous" remedies; does the editor feel that "he knows all that anybody knows" concerning their "composition, character and action?" If so, how much does anybody know concerning these things? This, at least, can be said: The Journal has given much valuable and accurate information concerning the "composition" and "character" of many of the preparations advertised in *American Medicine.* But, unfortunately, that journal has not seen fit to pass this information on to its readers. Why?

Medical News

ALABAMA

New Officers.—Lee County Medical Society at Opelika: president, Dr. W. J. Love; secretary, Dr. O. V. Langley, both of Opelika.

Industrial Concern Establishes Health Department.—The Tennessee Coal and Iron Company has created a health department in connection with its office in Birmingham. Dr. Lloyd Noland, formerly of the Ancon Hospital, Panama, has been appointed supervisor of the department.

State Association Meeting.—At the annual meeting of the Medical Association of the State of Alabama, held in Mobile, April 16-18, the following officers were elected: president, Dr. R. S. Hill, Montgomery: vice-presidents, Drs. Hugh W. Blair, Sheffield, and F. A. Webb, Calvert; secretary. Dr. J. A. Norment Baker, Montgomery (reelected); and treasurer, Dr. H. Gaither Perry, Montgomery (reelected). The next meeting will be held in Montgomery.

Personal.—Dr. J. M. Austin, Wetumpka, has been appointed physician inspector of the State Convict Board, vice Dr. J. T. Fowler, Wetumpka, term expired. Dr. Fowler has been appointed physician in charge of the tuberculosis hospital and of the main penitentiary, Wetumpka.——Dr. E. M. Prince, Birmingham, is reported to be critically ill with septicemia in the Union Protestant Infirmary, Baltimore.——Dr. Joseph Leland, for eight years district physician at the Bryce State Hospital, Tuscaloosa, has resigned.——Dr. and Mrs. Joseph Leland, Tuscaloosa, have sailed for Europe.

CALIFORNIA

Quarantine Station.—The War Department has transferred to the Treasury Department six acres of land near Dead Man's Island, Los Angeles Harbor, to provide a quarantine station for the port. It is estimated that the cost of the necessary bulkheading and buildings will be about $150,000.

Personal.—After nine years of public service, Dr. George H. Aiken has resigned as city health officer of Fresno.——Dr. Thomas E. Shumate has been appointed police commissioner of San Francisco.——Dr. James H. McBride has been elected a member of the board of education of Pasadena.

State Society Meeting.—At the forty-third annual meeting of the Medical Society of the State of California, held in Oakland, April 15-17, the following officers were elected: president, Dr. Fitch C. E. Mattison, Pasadena; vice-presidents, Drs. Barton J. Powell, Stockton, and George E. Tucker, Riverside; secretary, Dr. Philip Mills Jones, San Francisco (reelected); councilors, Dr. George H. Kress, Los Angeles, second district; Dr. C. G. Kenyon, San Francisco, sixth district; Dr. James H. Parkinson, Sacramento, eighth district, and Dr. Oliver D. Hamlin, Oakland, councilor-at-large; delegates to the American Medical Association, Drs. George A. Hare, Fresno, and V. G. Vecki, San Francisco. and alternates, Drs. Lemuel Adams, Oakland, and Emmet Rixford, San Francisco. Santa Barbara was selected as the place of meeting for 1914.

COLORADO

New Members of State Board.—Drs. Luke MacLean, Pueblo. and Charles B. Dyde, Greeley, have been appointed members of the State Board of Medical Examiners.

New Hospital for Tuberculous Poor.—The city and county of Denver have decided to build a hospital on a high piece of land, west of Valverde. 160 acres in extent, for the benefit of the poor of the city and county affected with tuberculosis.

Personal.—Dr. Rudolph Albi, chief medical inspector of the city and county of Denver and superintendent of the Steele Memorial Hospital, has resigned.——The offices of Drs. H. M. Thompson and Fritz Lassen were destroyed in the Swift Building fire, Pueblo, April 11.

GEORGIA

Contagious Ward Opened.—In compliance with requests from the Atlanta Board of Health, Grady Hospital has opened a ward for patients suffering from cerebrospinal meningitis. The new ward will accommodate fifteen patients.

State Health Boards Meeting.—At the annual meeting of the Georgia State Municipal and County Health Boards, held in Savannah, April 15, Dr. Eugene E. Murphey, Augusta, was elected president, and A. V. Wood, Brunswick, secretary.

Wesley House Physicians Organize.—The physicians making up the staff of the Wesley House Clinics have perfected a permanent organization with Dr. Clarence A. Rhodes as president, Dr. C. B. Greer, vice-president, and Dr. William F. Shallenberger, secretary, all of Atlanta.

Homeopathic Board Reappointed.—The governor has reappointed the following members of the Homeopathic Board of Medical Examiners for a term of three years, beginning June 5, next: Drs. John Z. Lawshe, R. E. Hinman and C. M. Paine, Atlanta; Dr. Robert B. Cuthbert, Rome; and Dr. M. A. Cleckley, Augusta.

State Association Meeting.—At the sixty-fourth annual meeting of the Medical Association of Georgia held in Savannah, April 16-18, the following officers were elected: president, Dr. Ralston Lattimore, Savannah; vice-presidents, Drs. J. D. Chason, Bainbridge, and S. R. Roberts, Atlanta; secretary-treasurer, Dr. W. C. Lyle, Augusta (reelected); delegate to the American Medical Association, Dr. M. A. Clark, Macon; alternate, Dr. C. T. Nolan, Marietta, and councilors, Dr. W. L. Champion, Atlanta, fifth district; Dr. J. R. B. Branch, Macon, sixth district; Dr. H. Clay Willis, Rome, seventh district, and Dr. Edward Gallard Adams, Greensboro, eighth district. Dr.

William B. Hardman. Commerce. was reelected chairman and Dr. J. Lawton Hiers, Savannah, secretary of the council. Atlanta was selected as the next place of meeting.

ILLINOIS

Hospital Notes.—The contract for the new building for St. Mary's Hospital, Galesburg, has been let. It will cost about $75,000.——The owners of the site of the new Alton State Hospital, comprising 1,032 acres, were paid $203,000 for their land by the state, April 11.——The tuberculosis sanatorium at the Elgin State Hospital has been completed and was opened for public inspection, April 13. The institution has accommodation for forty patients.

New Officers.—Hancock County Medical Society at Carthage, April 14: president, Dr. J. T. Jenkins; secretary, Dr. C. L. Ferris, both of Carthage.——Peoria Association for the Prevention of Tuberculosis, April 14: president, Dr. Sumner M. Miller (reelected); secretary-treasurer, Dr. Jeanette C. Wallace, both of Peoria.——Stephenson County Medical Society at its meeting in Freeport, April 10, authorized the organization of an auxiliary medical society to be known as the Freeport Section of the Society.——La Salle County Medical Society at La Salle, April 22: president, Dr. Roy Sexton, Streator; secretary, E. W. Weis, Ottawa, (reelected).——Jersey County Medical Association at Jerseyville: president, Dr. A. K. Van Horne; secretary-treasurer, Dr. Alexander M. Cheney, both of Jerseyville.

Personal.—Dr. J. E. Westerlund has been elected mayor of Cambridge.——Dr. C. T. C. Wilson has been elected president and Dr. James O. Pearman, a member of the Board of Health of Mahomet.——Dr. R. T. White has been reelected president of the village of Annawan.——Dr. H. W. Hand, White Hall, has returned after a winter in the South and located at Granite City.——Dr. Kimball W. Leland has been elected mayor of Utica.——Dr. F. W. Wilcox. Minonk, was operated on for appendicitis at the Henrotin Memorial Hospital, Chicago, April 12.——Drs. J. R. Tobin and F. C. Schurmeier. Elgin, are suffering from septicemia due to autopsy wounds.——Dr. Robert W. McInnes has been reelected mayor of Belvidere.——Dr. W. L. Eddy, Milan, has been appointed local surgeon for the Rock Island system.

Chicago

Washburn Gives Historical Talk.—Dr. William H. Washburn, Milwaukee, delivered an address before the Society of Medical History of Chicago, April 17, on "Galen, Da Vinci and Vesalius," illustrated by lantern slides.

Personal.—Drs. S. R. Pietrowicz, Dr. and Mrs. John Francis Urie and Dr. W. W. Dicker have sailed for Europe.——Dr. and Mrs. L. S. Eastlake and family have returned from Europe.——Dr. Halford J. Morlan has been made professor of diseases of the eye, ear, nose and throat in the Illinois Post-Graduate Medical School.——Dr. Antonio Lagorio has been elected chairman of the board of directors of the Chicago Public Library.

Hospital Notes.—Petitions are being circulated for the establishment of the Northwest Side Polyclinic and Dispensary to be located at Division and Wood Streets. Dr. Joseph Shanks has been selected as physician in charge of the institution.——The cornerstone of the Mothers' Aid Pavilion of the Chicago Lying-In Hospital was laid April 30. Addresses were made by Dean Sumner and Rabbi Hirsch. This building will be the first of the three buildings to comprise the complete Chicago Lying-In Hospital.——Condemnation proceedings have been commenced by the city for the purpose of acquiring a site for the new municipal hospital for contagious diseases, south of the Bridewell.

KANSAS

State Society Meeting.—The annual meeting of the Kansas Medical Society will be held in Topeka, May 7-8.

New Officers.—Golden Belt Medical Society at Junction City, April 3: president, Dr. R. C. Lowman, Kansas City; secretary, Dr. W. A. Carr, Junction City.

KENTUCKY

Damage by Fire.—The store and residence of Dr. J. T. Hammonds. Stanford, was destroyed by fire, March 26, with a loss of $3,500.——By a fire in Marion, March 27, the office of Dr. A. J. Driskill was burned.

Personal.—Dr. Frank C. Wilson, Louisville, was seriously injured in a runaway accident in New Albany. April 16.—Dr. John L. Phythian, Dayton, is reported convalescent after amputation of his right index finger.

LOUISIANA

New Officers.—Natchitoches and Red River Bi-Parish Medical Association at Coushatta, April 9: president, Dr. C. E. Edgerton, Coushatta; secretary-treasurer, Dr. E. W. Breazeale, Campti. The next meeting is to be held in Natchitoches.——Iberville Parish Medical Association at White Castle, April 2: president, Dr. A. A. Landry, Plaquemine; secretary-treasurer, Dr. R. D. Martinez, White Castle.

Mental Hospital Report.—Dr. E. M. Hummel, city alienist of New Orleans, in his report for the first quarter of 1913, stated that the city hospital for mental diseases had handled 909 patients in its two years of existence. Of the 176 patients under treatment during the last year, 19 were sent to the State Hospital, Jackson; 7 were received in transit to the State Hospital, Jackson; 3 were received at the Louisiana Retreat as pay patients; 4 were returned to other states; 16 died; 60 were discharged and sent to the care of their families or friends; 5 were cured; 27 improved; 52 not improved, and 9 were found to be not insane.

MARYLAND

State Society Meeting.—The one hundred and fifteenth annual meeting of the Medical and Chirurgical Faculty of Maryland was held in Baltimore, April 22-24, when the following officers were elected: president, Dr. John Randolph Winslow. Baltimore; Drs. C. R. Winterson, Hanover; A. L. Franklin. Cumberland, and Gordon Wilson, Baltimore, vice-presidents; Dr. John Ruhrah, Baltimore, secretary (reelected); Dr. William S. Gardner. Baltimore, treasurer (reelected); Dr. G. Lane Taneyhill, Baltimore, delegate to the American Medical Association; Dr. E. B. Claybrook, Cumberland, alternate, and Drs. B. W. Goldsborough, Cambridge; A. L. Wilkinson and H. L. Homer, Baltimore, members of the state examining board.

Baltimore

Personal.—Dr. Fannie E. Hoopes has returned from a trip around the world.——Dr. Louise Pearce has been appointed first assistant to Dr. Adolph Meyer, chief of the Phipps Psychiatric Clinic.

Appeal for Medical School.—The University of Maryland School of Medicine asks half a million dollars for endowment, to be divided equally among the departments of chemistry, anatomy, physiology, pharmacology and pathology.

Osler in Baltimore.—After delivering the Silliman Lectures at Yale University, Sir William Osler returns to Baltimore for a few days and on May 5 will deliver an address to the students of Johns Hopkins University and also a lecture to the nurses.

Memorial Ward Opened.—The Baltimore and Ohio railroad has just constructed at the University Hospital a new ward as a memorial to the late Dr. Summerfield B. Bond, for many years chief medical examiner of the railroad. The ward is to be under the care of Dr. Page Edmunds of the University of Maryland.

Lectures on Tropical Medicine.—Surgeon James Archibald Nydegger. U. S. P. H. S., is giving a course of lectures on tropical medicine at the Maryland University School of Medicine. The course commenced January 13 with the history of tropical medicine. In the succeeding lectures, the most of which were given by Dr. Nydegger, various tropical diseases were taken up seriatim, most of them being illustrated by lantern slides. One lecture on "Hookworm" was delivered by Surgeon Charles Wardell Stiles of the Hygienic Laboratory, U. S. P. H. S.; one was given by Senior Surgeon Henry R. Carter, U. S. P. H. S., on "Yellow Fever;" one by Assistant Surgeon-General William Colby Rucker, U. S. P. H. S., on "Plague." and one by Surgeon C. H. Lavinder, U. S. P. H. S., on "Pellagra." The series will close May 18.

MASSACHUSETTS

Presentation to Dr. Williams.—The faculties of Tufts Medical and Dental schools presented Dr. Harold Williams, the retiring dean of the schools. with a handsome silver set consisting of a tankard, tray and pair of candlesticks.

Sanatorium Opened.—The Children's Sanatorium, Lynn, established by the White Plague Relief Association of Lynn, was opened April 19. The city has given a site for the institution on which an administration building with two wings has been erected.

New Officers.—Plymouth District Medical Society at Brockton, April 17: president, Dr. Charles E. Lovell, Whitman; secretary-treasurer and reporter, Dr. Alfred C. Smith, Brockton.——Middlesex South District Medical Society at Boston, April 16: president, Dr. Godfrey Ryder, Malden; secretary, Dr. Lyman S. Hapgood, Cambridge.——Springfield Academy of Medicine, April 18: president, Dr. Walter R. Weiser; secretary, Dr. John M. Birnie. At the close of the business meeting Dr. John B. Deaver, Philadelphia, read a paper on "Cholecystectomy."

Personal.—Dr. Harold Williams has resigned as dean and professor of the theory and practice of medicine in Tufts College Medical School, Boston, and has been appointed professor of the theory and practice of medicine emeritus; Dr. Henry B. Chandler has been appointed professor of ophthalmology, emeritus; Dr. Elwood T. Easton, professor of ophthalmology, and Dr. Edmund W. Clap, associate professor of ophthalmology.——Dr. Edwin B. Harvey, Boston, has resigned as secretary of the State Board of Registration in Medicine but will continue as a member of the board.——Dr. Milton J. Rosenau has been appointed a member of the State Board of Health.——Dr. Herbert B. Howard has resigned from the State Board of Insanity.

MICHIGAN

State Board Election.—At the annual meeting of the State Board of Health, Dr. Victor C. Vaughan, Ann Arbor, was elected president and Dr. T. M. Koon, Grand Rapids, vice-president.

Sanatorium Notes.—Wexford County has invited Missaukee, Manistee, Kalkaska, Benzie and Grand Traverse counties to unite in building a tuberculosis sanatorium at some central point in the district.——The electors of Midland have voted to purchase a site in Jerome Township for a tuberculosis sanatorium.

Open-Air School Opened.—The open-air school connected with the Kalamazoo public schools opened April 21. The school is not for children having tuberculosis, but for those who are anemic and predisposed to tuberculosis. The capacity is about twenty and a house on East Lovell Street has been remodeled for the use of the school.

Personal.—Dr. H. H. Cummings, Ann Arbor, has been appointed university physiciaan and Dr. Elsie S. Pratt, physician for the women students, at the University of Michigan.——The Bay County Medical Society gave a dinner recently at Bay City in honor of Dr. Victor C. Vaughan who afterward delivered an address on "Prevention of Disease."——Dr. J. B. Kennedy has been reelected, for the fourth time, president of the Detroit Board of Health.——Dr. Jesse E. Wilson, Rochester, is reported to be critically ill.——Drs. Albertus Nyland, Grand Rapids; W. T. Dodge, Big Rapids; George Le Fevre, Muskegon; George W. Nafe, Fremont, and C. B. Burr, Flint, have been reappointed members of the State Board of Registration in Medicine.——Dr. John J. Reycraft has been elected mayor of Petoskey for the third term.

MISSOURI

Personal.—Dr. C. M. Jackson, dean of the School of Medicine of the University of Missouri, Columbia, has accepted the position of professor of anatomy at the University of Minnesota.——Dr. George L. McCutchan, Canton, has been appointed physician to the State Penitentiary, Jefferson City, vice Dr. A. H. Myerdick, Jefferson City.

Graduate Hospital Needed.—Physicians of Kansas City believe that the General Hospital should be transformed from a local institution into a graduate hospital and preventive laboratories center. This would not necessitate great initial expense and would be of great benefit to the Southwest.——Dr. B. E. Moody opened his new hospital at Clarence, April 1.

St. Louis

New Isolation Hospital.—The new Isolation Hospital will be erected between the City Sanitarium and Infirmary, at a cost of about $160,000. Work will commence this month.

Wyman Portrait Presented.—A portrait of the late Surgeon-General Walter Wyman, U. S. P. H. S., was presented to the St. Louis Medical Society by Mr. Frank Wyman at its April 12 meeting. The oration was delivered by Dr. R. M. Funkhouser and the portrait was accepted by the president on behalf of the society.

Alumni Meeting.—The Alumni Association of St. Louis University Medical Department will hold its annual meeting during the week of the meeting of the Missouri State Medical Association. On May 12 the regular meeting will be held in the medical building at 8 p. m. with a program furnished by out-of-town members. The alumni dinner will be given May 14 at 6 p. m. at the Jefferson Hotel, and clinics have been arranged at the university hospitals during the week.

NEW YORK

New Officers.—Hornell Medical and Surgical Society, April 6: president, Dr. Spencer H. Stuart; secretary-treasurer, Dr. George W. Mitchell.

Asks Appropriation for Letchworth Village.—The State Board of Health has sent a letter to the governor urging an appropriation of $717,000 for Letchworth Village, the state colony for tuberculosis.

Clifton Medical Bulletin.—The Clifton Springs Sanatorium and Hospital has commenced the publication of the *Clifton Medical Bulletin* to appear quarterly. The first issue is a very creditable production both mechanically and as to its subject matter.

Personal.—In the case of Grace Frost against Dr. William B. Jones, Rochester, in which the plaintiff urged that a pad of gauze had been left in the abdominal cavity after an operation, the supreme court jury brought in a verdict in favor of Dr. Jones, April 17, finding no cause for action.

Hospital to Be Enlarged.—The Crouse-Irving Hospital, Syracuse, which was opened ten months ago as a private hospital, is about to be incorporated as a public hospital under the auspices of the State Board of Charities. One story will be added to the building and in this story the free wards will be located.

Would Have State Pay Doctors.—Homer Folks, who recently delivered the third Kennedy lecture for 1913 for the State Charities Aid Association, stated that at present 6 per cent. of the medical men in New York were under the employ of the Department of Health. He made a plea for state control of all physicians and said that "Not until the whole medical profession is under control of state authorities can war be successfully waged on disease. Under such a system every individual in the community could be subjected to medical inspection and receive medical treatment."

New York City

Orthopedic Service.—The Bronx Hospital and Dispensary has established a daily service in the department of orthopedic surgery, for three days of the week in charge of Dr. Irving D. Steinhardt and on the alternate days in charge of Dr. Edgar D. Oppenheimer.

The Childrens' Preventorium.—The Fresh Air Preventorium, Lakewood, N. J., celebrated the anniversary of its dedication on April 25. No tuberculosis cases are handled, the institution devoting itself entirely to children coming from homes where consumption exists and where the surroundings would tend to make them a prey to the disease. The institution now houses 300 children and has cared for 800 during the four years of its existence.

Skyscraper for Professional Men.—The construction of a thirty-five story office building for professional men, doctors, dentists, architects, etc., will be commenced next month on the southeast corner of Seventy-Second Street and West End Avenue and will be completed by the spring of 1914. Unusually complete equipments will be provided for physicians. An operating-room will be constructed on the top floor for the use of tenants and there will be an inner court and turn-table for ambulances.

Money Distributed to Hospitals.—The Hospital Saturday and Sunday Association has apportioned $105,000 among forty-six hospitals according to the number of days of free treatment given to the poor. On this basis the Montefiore Home with a record of 166,036 free days received the largest check, $10,500; Mount Sinai Hospital ranked second with 108,943 free days and gets $9,129. Among the general hospitals $49,323 was distributed; among special hospitals, $16,082; among hospitals for women and children, $22,376, and among hospitals for convalescents and incurables, $17,217.

New Sea View Hospital.—This institution built by the Department of Charities of New York City at a cost of $3,400,000 and located on Staten Island, is now complete, and will be opened in the near future. Over one thousand patients can be accommodated. Thus far no definite policy has been outlined as to the class of patients to be received though it is planned at first to take in patients not later than the second stage of the disease. A requirement that will be strictly enforced is that patients shall be respectable and self-supporting and not vagrants or alcoholics; preference will be given to those with families, who might become infected by their stay at home.

Honor Dr. Billings.—A number of distinguished people met in the Stuart gallery of the public library April 25, to honor the memory of Dr. John Shaw Billings, the late director of the New York Public Library, who died March 11. Dr. Billings was praised as a leader in medical science, as an organizer of medical knowledge and practice and as a bibliographer and librarian unsurpassed in the classification of knowledge in all branches of letters. In the Surgeon-General's Department he collected one of the largest and most complete medical libraries in the world, now numbering more than 500,000 volumes and 5,000 portraits, and compiled the first series of his great catalogues. The second series is now nearing completion and is an exhaustive index of all medical literature in all its departments and subjects, a catalogue of comprehensive proportions and marvellous accuracy. Among those who spoke were Dr. S. Weir Mitchell, Sir William Osler and Dr. William H. Welch.

Open Nation-Wide Campaign Against Cancer.—A meeting was held at the home of Dr. Clement Cleveland, April 22, for the purpose of forming an organization to fight the spread of cancer. It is intended to establish a central office with secretary and assistants in New York, and to perfect organizations in all of the states. The general lines of the National Association for the Study and Prevention of Tuberculosis will be followed out both in organization and in campaign work. Dr. LeRoy Broun is chairman of the committee on organization. A report from the committee will be submitted to the Physician's Congress at Washington next month, cooperation being expected from that body. The work of the organization will include the publication of articles in newspapers and magazines, distribution of pamphlets, seeking cooperation on the part of women's clubs, special instruction in nurses' training schools, and lectures before mother's clubs and groups of nurses and physicians.

Plan Gigantic Sewer for City.—The Metropolitan Sewage Commission through its chairman, George A. Soper, has presented a plan for disposing of the city's sewage. The report shows that the East River has reached a dangerous state of pollution and that as the population increases it will become more and more a menace to health. It is estimated that freeing the waters around New York of infectious dirt will cost about $37,000,000. The commission plans to accomplish this by building a great sewer system which shall pass under the East River, Brooklyn, and Coney Island, to an artificial island which will be constructed beyond Coney Island and at which place the sewage will be separated and purified, the sludge being carried away by tank steamers fifty miles out to sea. The Metropolitan Sewage Commission has just been continued by an act of legislature for another three years, but it is said that by the end of another year it will have completed its plans so that the building of the sewers can go on under the direction of a new commission.

NORTH DAKOTA

State Meeting.—The annual meeting of the North Dakota State Medical Association will be held in Minot, May 7-8.

Personal.—Dr. G. J. Gislason, Grand Forks, sailed for Europe, April 23.——Dr. C. J. McGurren, Devils Lake, has been appointed president of the State Board of Health.——Dr. G. J. McIntosh, Devils Lake, has been appointed superintendent of health of Ramsey County.

OHIO

New Officers.—Logan County Medical Society at Bellefontaine, April 10: president, Dr. Frank B. Kaylor; secretary-treasurer, Dr. Guy H. Swan, both of Bellefontaine.

Personal.—Dr. P. D. Reefy, Elyria, suffered a cerebral hemorrhage, April 14.——Dr. George Kerns, Springhill, was found unconscious on a road near Bellefontaine, suffering from a fracture of the skull.

Hospital News.—Niles Sanatorium, Urbana, has been sold to Winfield Rowe of Dayton for $10,400. It will be continued in operation under the management of Dr. G. W. Pickering, Urbana.——The Union Hospital Company, Cleveland, has been incorporated. It is composed of ex-members of the Eddy Road Hospital Corporation which was sold at receiver's sale recently. The hospital will be reorganized and it is planned to enlarge it to twice its present size.——Mercy Hospital, Hamilton, was damaged by the recent flood to an extent estimated at $25,000.——Plans have been completed for the new building for the German Hospital, Cleveland. The building is to be fireproof throughout, 136 feet long by 60 feet wide and three stories and a basement in height. The campaign for the raising of $85,000 required for the new hospital was opened April 16.

Cincinnati

Personal.—Dr. Mark A. Brown left May 1 for a two months' trip abroad.——Dr. Clark W. Davis is taking a vacation in Cuba and the Bermudas.——Dr. Clifford C. Kennedy has been appointed assistant superintendent of the Cincinnati Anti-tuberculosis Hospital, vice Dr. F. J. Boyd, resigned.

Munsterberg in Cincinnati.—Prof. Hugo Munsterberg of Harvard, delivered an address at the Hughes High School auditorium April 14, on "Psychology in Business." On the following evening a dinner was given by the Harvard Club of Cincinnati to Professor Munsterberg and Dr. Frederick Forchheimer, who was recently given the degree of LL.D. by Harvard University.

PENNSYLVANIA

Portrait Presented to Medical Society.—A portrait of the late Dr. William Grubb, who died in 1885, was presented to the Medical Society of Franklin County.

Campaign for Reading Hospital.—A campaign to raise $50,000 for improvements and additions to the Homeopathic Hospital of Reading was begun April 21 with a preliminary meeting and banquet at the Rajah Temple. More than two dozen teams were organized.

Higher Entrance Requirements.—The University of Pittsburgh School of Medicine states that hereafter the entrance requirements are, in addition to a standard four-year high school education, two years of collegiate work which must include courses in physics, chemistry, biology and a modern language in addition to English. There are now thirty-two medical colleges in the United States exacting this or higher entrance requirements.

Philadelphia

Hospital Reopened.—The Central Hospital of Philadelphia reopened at 2219 Chestnut Street. It will be conducted in affiliation with the Philadelphia School for Nurses. It is now a modern hospital, adapted for medical, surgical and obstetrical cases. Patients are under the personal care of their own physicians.

Baby-Saving Show.—A baby-saving show opened April 30 at 1720 Race Street, and will continue until May 11. The show is held under the auspices of the Child's Hygienic Association and is the sixth of the series of shows given in different parts of the city for the instruction of mothers since the city-wide one held last May.

Orthopedic Hospital Organizes Health Class.—Every Saturday afternoon a number of girls ranging from 10 to 16 years of age meet at the Orthopedic Hospital and are given instruction in caring for themselves. All the members of the class are suffering from curvature of the spine or nervous defects and they are taught the principles of hygienic living, the need of fresh air, plenty of water, bathing and exercise.

Phipps Institute to be Dedicated May 10.—The building of the Phipps Institute at Seventh and Lombard will be formally dedicated May 10. Prominent physicians from all parts of the country will attend the exercises. The principal feature will be the conferring of the degree LL.D. on Henry Phipps, the donor, by the University of Pennsylvania. A paper on the history of the institution will be read by Dr. Lawrence F. Flick, and Dr. Hermann M. Biggs of New York will make the address of the afternoon.

Personal.—At the meeting of the American Philosophical Society, April 17, a portrait of Dr. William W. Keen was presented to the society by Dr. W. G. Rosengarten.——Dr. Rufus B. Scarlet has gone abroad.——Dr. Howard Childs Carpenter has resigned from the dispensary of the Childrens' Hospital.——Dr. Ralph Pemberton has been appointed to the staff of the Presbyterian Hospital, vice Dr. S. S. Stryker, retired.——Dr. L. C. Peter has been elected ophthalmologist to the Rush Hospital for Consumption and Allied Diseases, vice Dr. Wendell Reber, resigned.

Housecleaning Week.—Preparations for the "All Philadelphia Clean Up Week" were completed at a meeting held April 23 in the Mayor's reception room at City Hall. Clean up week was inaugurated April 28 and lasted until May 3. Placards announcing the scope of the work were posted in every trolley car in the city April 24 and 200,000 posters outlining the features of the campaign for a clean city were distributed by policemen. The children of various public schools were organized to help clean up vacant lots and Archbishop Prendergast sent a communication to the rector of every church in the diocese urging them to announce at all masses, held April 27, the scope of the movement.

SOUTH CAROLINA

College Gets Funds.—As the result of a whirlwind campaign conducted by the faculty of the Medical College of South Carolina, Charleston, recently taken over by the legislature as a state institution, it is reported that, within ten days' time, $76,000 was subscribed by the citizens of Charleston. The fund thus secured is to be used to erect a new college building on a site opposite the Roper Hospital.

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LONDON LETTER

(From Our Regular Correspondent)

London, April 19, 1913.

The International Medical Congress

In previous letters (The Journal, Dec. 21, 1912, p. 2269; Jan. 25, 1913, p. 298), some of the arrangements for the Seventeenth International Congress of Medicine, which will be held in London August 6-20, were reported. Further details can now be added. The congress will be opened by Prince Arthur of Connaught as the representative of the King at Albert Hall, at 11 a. m., Wednesday, August 6. The last time the congress was held in London was in 1881, when Sir James Paget was chairman. This year the president is Sir Thomas Barlow. The central office of the congress will be in the Albert Hall. The sectional meetings will be held in the University of London, the Imperial College of the Royal School of Science, the School of Science, the School of Art and the Central Technical College. These buildings are all close together in South Kensington. The Royal College of Physicians, the Royal Society of Medicine, St. Thomas' Hospital, the Royal Army Medical College and the Royal Dental Hospital are also offering accommodations for sectional meetings. In all there are twenty-six sections and subsections. The morning sessions will be devoted to discussions on fixed subjects which will be introduced by eminent physicians from every part of the world who have been invited for the purpose. Five general addresses have been arranged: medicine, Professor Chauffard; surgery, Prof. Harvey Cushing; pathology, Professor Ehrlich; heredity, Professor Bateson; public health, John Burns, president of the Local Government Board. It is estimated that 5,000 physicians will attend the congress.

The organizing has been going on for three years. The reports drawn up by those chosen to introduce the discussions are being put into type. These reports will be bound in separate volumes for each section before the congress opens. Subsequently a second volume will be published containing the speeches delivered and the independent papers presented to the congress itself. On April 30 a circular will be issued giving information as to traveling facilities, hotels, boarding-houses, the location of the various sections and other points. Early in June the final program will be published. This will include the list of independent papers accepted by the sections. The office of the congress is at present at 13 Hinde Street, London W., where information can be obtained from the secretary. The membership subscription is $5, but this suffices only to meet the expenses of producing the volume of transactions which will be delivered to each member after the congress. The entire cost of organization and conduct of the meetings has to be provided by private subscriptions to the general fund.

Plague Investigation in India

The Advisory Committee for Plague Investigations in India on Saturday issued its seventh report. It is stated that with the exception of a single epidemic in 1905 and 1906, plague infection has never gained a foothold in the city of Madras. The city has a population of 509,346, and in some of the native quarters there is much crowding. For several years past Madras has undertaken rat destruction, a reward of half a cent being offered for each rat brought in. Since February, 1906, the number of rats destroyed was 1,220,686. There is a seasonal variation in the abundance of rat fleas. Although rats and rat fleas are not so plentiful as in other plague-infested places in India, there are probably enough of each to maintain plague, though perhaps few enough to render implantation difficult. The rats, moreover, were exceptionally susceptible to plague. Statistics of the occurrence of plague in man and in rats in Bombay from 1907 to 1911 are given. Since the Commission brought the inquiry to a close, the collection of rats on a large scale had been continued by the Bombay City Municipal Health Department, and the animals have been examined for plague. The results showed how the rat epidemic precedes the human epidemic.

The British Journal of Surgery

There has never been in this country a journal specially devoted to surgery. The publication of a new periodical, the *British Journal of Surgery*, which will fill this gap, is now announced. Its object will be to represent all that is best in the surgery of the British Empire and to produce a periodical which may rank with the highest in the world. It will be produced under the direction of an editorial committee of which Sir B. G. A. Moynihan is the chairman, and the following well-known surgeons are members: A. E. J. Barker, Sir William Bennett, F. F. Burghard, Sir Watson Cheyne, E. M. Corner, T. Crisp English, C. H. Eagge, Sir R. J. Godlee, Sir A. Pearce Gould, W. Sampson Handley, W. Arbuthnot Lane, G. H. Makins, A. W. Mayo-Robson and D'Arcy Power, London; F. M. Caird, H. J. Stiles and H. A. Thomson, Edinburgh; Sir Charles Ball, Sir Thomas Myles and E. J. Taylor, Dublin; Rutherford Morison, Newcastle on Tyne; R. H. Parry, Glasgow; J. Lynn Thomas, Cardiff; William Thorburn, Manchester; Robert Jones, Liverpool, and E. W. Hay Groves, editorial secretary of Bristol. The publishers are John Wright & Sons, Bristol. The address of the London office is Stationers' Hall Court, E. C. The *Journal* will be finely illustrated in black and white and colors. The first number is now in active preparation.

PARIS LETTER

(From Our Regular Correspondent)

Paris, April 11, 1913.

Seventh Annual Meeting of French Gynecologists, Obstetricians and Pediatrists

The seventh Congrès français de gynécologie, d'obstétrique et de pédiatrie was held at Lille, March 25 to 28. It was the last one at which all these specialists will be united. The Association de pédiatrie de langue française was recently formed, and Professor Bar of Paris at this meeting brought forward his project for an Association des obstétriciens et gynécologues de langue française which had already been approved by the similar societies of Belgium and French-speaking Switzerland, and it was unanimously accepted. Among the subjects discussed, the most interesting from the clinical point of view was the relation between ovarian tumors and pregnancy.

OVARIAN TUMORS AND PREGNANCY

Drs. P. Puech, adjuvant professor of the Faculté de médecine de Montpellier, and J. Vanverts, *agrégé* professor of the Faculté de médecine de Lille, read a paper on ovarian and parovarian tumors and their relation to pregnancy, labor and the sequelae of childbirth. The existence of an ovarian tumor does not prevent impregnation, but it diminishes its frequency. This influence is still more marked in the case of bilateral ovarian tumors. Interruption of pregnancy occurs on an average in 12.5 per cent. of cases. The cause is generally an additional complication. In other cases it is the volume of the cyst preventing the development of the uterus, or pulling due to adhesions of the tumor to the uterus, etc. The growth of ovarian tumors seems to be little influenced by pregnancy except when they are malignant. They are subject to various complications like those which may affect them apart from gestation. Torsion of the pedicle occurs more frequently (17 per cent. of cases) than in the absence of pregnancy (from 5 to 14 per cent. of cases). It occurs with special frequency during the first half of pregnancy (90 per cent. of cases) and becomes infrequent in the latter half (10 per cent.). Other complications, such as rupture, suppuration and intracystic hemorrhage, are rare. With regard to influence on labor, a distinction must be made between the abdominal and the pelvic tumors. The presence of an abdominal tumor ordinarily has no harmful influence on the course of labor. It causes trouble (generally unimportant) in only 6 per cent. of cases. *Pelvic tumors, on the contrary, are frequently the* cause of dystocia (94 per per cent. of cases); immobility and resistance of the neoplasm, as in dermoid cysts and solid tumors, are particular causes. Vicious presentations are favored slightly by these pelvic tumors. More often they cause prolapsus of the umbilical cord. This sometimes causes a secondary uterine inertia. Pelvic ovarian tumors prevent a normal course of labor, especially, however, by creating a mechanical obstruction to the passage of the fetus. Obstruction of the pelvic outlet sometimes causes a rupture of the uterus; but labor may be terminated spontaneously either by rupture or by descent of the cyst before the fetus (very serious complications) or by ascent of the cyst to the upper portion of the canal, or by its flattening out (favorable but rare occurrences). On these accounts, the indications are for a speedy operation in the first half of pregnancy. In the latter half most obstetricians prefer to temporize because of the dangers to which an operation exposes the fetus. Nevertheless, expectant treatment is justified only if the woman can be kept under incessant observation. If the evolution of the neoplasm is rapid and justifies the fear that it may be cancerous, an operation is urgent at any period of pregnancy. Urgency is no less when complications such as torsion, rupture or suppuration develop in addition to the tumor. Abdominal ovariotomy, which is the only operation practicable when the tumor occupies the abdomen, ought to be preferred to vaginal ovariotomy. In cases of pelvic tumors, vaginal ovariotomy presents risks which can be avoided by the suprapubic route, in which the maneuvers are *less blind*. *During operation* it is prudent to avoid useless traumatism of the uterus, but fear of such traumatism (which indeed is generally exaggerated), ought not to prevent the application of the ordinary rules of ovariotomy. The surgeon should give his best attention to hemostasis and the restoration of the wall. Ovariotomy should be preceded and followed by the *administration* of a uterine sedative. During labor, since the presence of an abdominal ovarian tumor ordinarily causes no difficulty, there should be no thought of interference. The case is different with regard to a pelvic tumor preventing the engagement of the presenting fetal part. To push back the tumor gently is *not dangerous* and may give excellent results. *Version* and forceps are, on the other hand, to be absolutely rejected because of the danger to mother and child. The same of course should be said of cephalic embryotomy. Puncture of the cyst is a simple procedure which has given success in a number of cases and is not very dangerous (10 per cent. mortality for the mother, 13 for the child). It cannot, however, be *considered* as perfectly safe, and it has the disadvantage of leaving a tumor which must be removed soon. This is necessary when the cyst is situated low down and dips deep into the pelvic cavity and threatens uterine rupture. Ovariotomy then remains the procedure of choice. Following the delivery it seems preferable to refrain from operation, if the case proceeds normally, as it usually does, but in about one-third of the cases there are complications such as suppuration, or gangrene of the cyst with a possibility of gangrene of the walls of the birth-canal, torsion of the pedicle, rupture of the cyst, etc. In the presence of such complications and even of doubt, early operation is urgent.

According to Dr. Barnsby of Tours there are only two indications for expectant treatment: (1) ovarian tumors fixed in the pelvis, very adherent and not capable of being compressed or pushed backward, for which it is desirable to await the end of labor and to perform a cesarean operation followed by removal of the cyst; (2) frankly abdominal ovarian tumors at the eighth month, laparotomy at this period favoring premature delivery. In all other cases operation is indicated. In twenty-two operations Barnsby has had twenty-two recoveries of the mother, twenty living infants, one abortion and one premature delivery. He has always been able to perform unilateral ovariotomies. He advises making a large incision in order to operate quickly and to see clearly. He makes a point of removing the cyst without puncture. He avoids traumatism of the uterus and endeavors to ligate the pedicle as far as possible from the uterine cornu. Dr. Fourmestraux emphasizes the difficulties presented by the differential diagnosis of ovarian tumors at the beginning and end of the sexual life of woman. Examination under general anesthesia is necessary in most cases. Dr. Muret of Lausanne particularly recommends for pelvic cyst in the last month of pregnancy, pushing back under general anesthesia. During labor, pushing back should be the first procedure, to be attempted at least by the general practitioner. If it does not succeed there is still time to take the patient to a hospital or clinic.

Professor Pinard of Paris advocates operation in the first half of pregnancy. In the second half it should be remembered that even if there are no complications, the compression of the gravid uterus prevents its development and contra-indicates the expectant policy. The physician ought to watch carefully to see if the development of the uterus occurs normally and act if it does not. In these operations there is no absolute rule. No procedure is to be rejected, neither crowding back nor puncture of pelvic cyst by the vaginal route. As for ovariotomy, Pinard agrees with Dr. Barnsby that it is necessary to act quickly and for that purpose to see clearly.

ABUSES OF VAGINAL DOUCHES

Dr. Langenhagen of Luxeuil called attention to the abuses of too hot vaginal irrigation in gynecology. There is a class of patients who cannot endure very hot water, which causes vaginal burns, tumefaction of the mucosa, and intense desquamation. In other patients, very hot water may revive old inflammatory lesions and it is necessary to be *content with* injections at 39, 40 and 42 C. (102.2, 104 and 107.6 F.). Injections at 50 or 52 C. (122 or 125.6 F.) *ought to be reserved* for hemorrhage after labor and for metrorrhagia due to fibromas or the menopause. Professor Pinard believes that accidents often result from injections given at too great every church in the diocese urging them to announce at all masses, held April 27, the scope of the movement.

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The International Medical Congress

In previous letters (The Journal, Dec. 21, 1912, p. 2269; Jan. 25, 1913, p. 298), some of the arrangements for the Seventeenth International Congress of Medicine, which will be held in London August 6-20, were reported. Further details can now be added. The congress will be opened by Prince Arthur of Connaught as the representative of the King at Albert Hall, at 11 a. m., Wednesday, August 6. The last time the congress was held in London was in 1881, when Sir James Paget was chairman. This year the president is Sir Thomas Barlow. The central office of the congress will be in the Albert Hall. The sectional meetings will be held in the University of London, the Imperial College of the Royal School of Science, the School of Science, the School of Art and the Central Technical College. These buildings are all close together in South Kensington. The Royal College of Physicians, the Royal Society of Medicine, St. Thomas' Hospital, the Royal Army Medical College and the Royal Dental Hospital are also offering accommodations for sectional meetings. In all there are twenty-six sections and subsections. The morning sessions will be devoted to discussions on fixed subjects which will be introduced by eminent physicians from every part of the world who have been invited for the purpose. Five general addresses have been arranged: medicine, Professor Chauffard; surgery, Prof. Harvey Cushing; pathology, Professor Ehrlich; heredity, Professor Bateson; public health, John Burns, president of the Local Government Board. It is estimated that 5,000 physicians will attend the congress.

The organizing has been going on for three years. The reports drawn up by those chosen to introduce the discussions are being put into type. These reports will be bound in separate volumes for each section before the congress opens. Subsequently a second volume will be published containing the speeches delivered and the independent papers presented to the congress itself. On April 30 a circular will be issued giving information as to traveling facilities, hotels, boarding-houses, the location of the various sections and other points. Early in June the final program will be published. This will include the list of independent papers accepted by the sections. The office of the congress is at present at 13 Hinde Street, London W., where information can be obtained from the secretary. The membership subscription is $5, but this suffices only to meet the expenses of producing the volume of transactions which will be delivered to each member after the congress. The entire cost of organization and conduct of the meetings has to be provided by private subscriptions to the general fund.

Plague Investigation in India

The Advisory Committee for Plague Investigations in India on Saturday issued its seventh report. It is stated that with the exception of a single epidemic in 1905 and 1906, plague infection has never gained a foothold in the city of Madras. The city has a population of 509,346, and in some of the native quarters there is much crowding. For several years past Madras has undertaken rat destruction, a reward of half a cent being offered for each rat brought in. Since February, 1906, the number of rats destroyed was 1,220,686. There is a seasonal variation in the abundance of rat fleas. Although rats and rat fleas are not so plentiful as in other plague-infested places in India, there are probably enough of each to maintain plague, though perhaps few enough to render implantation difficult. The rats, moreover, were exceptionally susceptible to plague. Statistics of the occurrence of plague in man and in rats in Bombay from 1907 to 1911 are given. Since the Commission brought the inquiry to a close, the collection of rats on a large scale had been continued by the Bombay City Municipal Health Department, and the animals have been examined for plague. The results showed how the rat epidemic precedes the human epidemic.

The British Journal of Surgery

There has never been in this country a journal specially devoted to surgery. The publication of a new periodical, the *British Journal of Surgery*, which will fill this gap, is now announced. Its object will be to represent all that is best in the surgery of the British Empire and to produce a periodical which may rank with the highest in the world. It will be produced under the direction of an editorial committee of which Sir B. G. A. Moynihan is the chairman, and the following well-known surgeons are members: A. E. J. Barker, Sir William Bennett, F. F. Burghard, Sir Watson Cheyne, E. M. Corner, T. Crisp English, C. H. Eagge, Sir R. J. Godlee, Sir A. Pearce Gould, W. Sampson Handley, W. Arbuthnot Lane, G. H. Makins, A. W. Mayo-Robson and D'Arcy Power, London; F. M. Caird, H. J. Stiles and H. A. Thomson, Edinburgh; Sir Charles Ball, Sir Thomas Myles and E. J. Taylor, Dublin; Rutherford Morison, Newcastle on Tyne; R. H. Parry, Glasgow; J. Lynn Thomas, Cardiff; William Thorburn, Manchester; Robert Jones, Liverpool, and E. W. Hay Groves, editorial secretary of Bristol. The publishers are John Wright & Sons, Bristol. The address of the London office is Stationers' Hall-Court, E. C. The *Journal* will be finely illustrated in black and white and colors. The first number is now in active preparation.

PARIS LETTER

(From Our Regular Correspondent)

Paris, April 11, 1913.

Seventh Annual Meeting of French Gynecologists, Obstetricians and Pediatricists

The seventh Congrès français de gynécologie, d'obstétrique et de pédiatrie was held at Lille, March 25 to 28. It was the last one at which all these specialists will be united. The Association de pédiatrie de langue française was recently formed, and Professor Bar of Paris at this meeting brought forward his project for an Association des obstétriciens et gynécologues de langue française which had already been approved by the similar societies of Belgium and French-speaking Switzerland, and it was unanimously accepted. Among the subjects discussed, the most interesting from the clinical point of view was the relation between ovarian tumors and pregnancy.

OVARIAN TUMORS AND PREGNANCY

Drs. P. Puech, adjuvant professor of the Faculté de médecine de Montpellier, and J. Vanverts, *agrégé* professor of the Faculté de médecine de Lille, read a paper on ovarian and parovarian tumors and their relation to pregnancy, labor and the sequelae of childbirth. The existence of an ovarian tumor does not prevent impregnation, but it diminishes its frequency. This influence is still more marked in the case of bilateral ovarian tumors. Interruption of pregnancy occurs on an average in 12.5 per cent. of cases. The cause is generally an additional complication. In other cases it is the volume of the cyst preventing the development of the uterus, or pulling due to adhesions of the tumor to the uterus, etc. The growth of ovarian tumors seems to be little influenced by pregnancy except when they are malignant. They are subject to various complications like those which may affect them apart from gestation. Torsion of the pedicle occurs more frequently (17 per cent. of cases) than in the absence of pregnancy (from 5 to 14 per cent. of cases). It occurs with special frequency during the first half of pregnancy (90 per cent. of cases) and becomes infrequent in the latter half (10 per cent.). Other complications, such as rupture, suppuration and intracystic hemorrhage, are rare. With regard to influence on labor, a distinction must be made between the abdominal and the pelvic tumors. The presence of an abdominal tumor ordinarily has no harmful influence on the course of labor. It causes trouble (generally unimportant) in only 6 per cent. of cases. Pelvic tumors, on the contrary, are frequently the cause of dystocia (94 per per cent. of cases); immobility and resistance of the neoplasm, as in dermoid cysts and solid tumors, are particular causes. Vicious presentations are favored slightly by these pelvic tumors. More often they cause prolapsus of the umbilical cord. This sometimes causes a secondary uterine inertia. Pelvic ovarian tumors prevent a normal course of labor, especially, however, by creating a mechanical obstruction to the passage of the fetus. Obstruction of the pelvic outlet sometimes causes a rupture of the uterus; but labor may be terminated spontaneously either by rupture or by descent of the cyst before the fetus (very serious complications) or by ascent of the cyst to the upper portion of the canal, or by its flattening out (favorable but rare occurrences). On these accounts, the indications are for a speedy operation in the first half of pregnancy. In the latter half most obstetricians prefer to temporize because of the dangers to which an operation exposes the fetus. Nevertheless, expectant treatment is justified only if the woman can be kept under incessant observation. If the evolution of the neoplasm is rapid and justifies the fear that it may be cancerous, an operation is urgent at any period of pregnancy. Urgency is no less when complications such as torsion, rupture or suppuration develop in addition to the tumor. Abdominal ovariotomy, which is the only operation practicable when the tumor occupies the abdomen, ought to be preferred to vaginal ovariotomy. In cases of pelvic tumors, vaginal ovariotomy presents risks which can be avoided by the suprapubic route, in which the maneuvers are less blind. During operation it is prudent to avoid useless traumatism of the uterus, but fear of such traumatism (which indeed is generally exaggerated), ought not to prevent the application of the ordinary rules of ovariotomy. The surgeon should give his best attention to hemostasis and the restoration of the wall. Ovariotomy should be preceded and followed by the administration of a uterine sedative. During labor, since the presence of an abdominal ovarian tumor ordinarily causes no difficulty, there should be no thought of interference. The case is different with regard to a pelvic tumor preventing the engagement of the presenting fetal part. To push back the tumor gently is not dangerous and may give excellent results. Version and forceps are, on the other hand, to be absolutely rejected because of the danger to mother and child. The same of course should be said of cephalic embryotomy. Puncture of the cyst is a simple procedure which has given success in a number of cases and is not very dangerous (10 per cent. mortality for the mother, 13 for the child). It cannot, however, be considered as perfectly safe, and it has the disadvantage of leaving a tumor which must be removed soon. This is necessary when the cyst is situated low down and dips deep into the pelvic cavity and threatens uterine rupture. Ovariotomy then remains the procedure of choice. Following the delivery it seems preferable to refrain from operation, if the case proceeds normally, as it usually does, but in about one-third of the cases there are complications such as suppuration, or gangrene of the cyst with a possibility of gangrene of the walls of the birth-canal, torsion of the pedicle, rupture of the cyst, etc. In the presence of such complications and even of doubt, early operation is urgent.

According to Dr. Barnsby of Tours there are only two indications for expectant treatment: (1) ovarian tumors fixed in the pelvis, very adherent and not capable of being compressed or pushed backward, for which it is desirable to await the end of labor and to perform a cesarean operation followed by removal of the cyst; (2) frankly abdominal ovarian tumors at the eighth month, laparotomy at this period favoring premature delivery. In all other cases operation is indicated. In twenty-two operations Barnsby has had twenty-two recoveries of the mother, twenty living infants, one abortion and one premature delivery. He has always been able to perform unilateral ovariotomies. He advises making a large incision in order to operate quickly and to see clearly. He makes a point of removing the cyst without puncture. He avoids traumatism of the uterus and endeavors to ligate the pedicle as far as possible from the uterine cornu. Dr. Fourmestraux emphasizes the difficulties presented by the differential diagnosis of ovarian tumors at the beginning and end of the sexual life of woman. Examination under general anesthesia is necessary in most cases. Dr. Muret of Lausanne particularly recommends for pelvic cyst in the last month of pregnancy, pushing back under general anesthesia. During labor, pushing back should be the first procedure, to be attempted at least by the general practitioner. If it does not succeed there is still time to take the patient to a hospital or clinic.

Professor Pinard of Paris advocates operation in the first half of pregnancy. In the second half it should be remembered that even if there are no complications, the compression of the gravid uterus prevents its development and contra-indicates the expectant policy. The physician ought to watch carefully to see if the development of the uterus occurs normally and act if it does not. In these operations there is no absolute rule. No procedure is to be rejected, neither crowding back nor puncture of pelvic cyst by the vaginal route. As for ovariotomy, Pinard agrees with Dr. Barnsby that it is necessary to act quickly and for that purpose to see clearly.

ABUSES OF VAGINAL DOUCHES

Dr. Langenhagen of Luxeuil called attention to the abuses of too hot vaginal irrigation in gynecology. There is a class of patients who cannot endure very hot water, which causes vaginal burns, tumefaction of the mucosa, and intense desquamation. In other patients, very hot water may revive old inflammatory lesions and it is necessary to be content with injections at 39, 40 and 42 C. (102.2, 104 and 107.6 F.). Injections at 50 or 52 C. (122 or 125.6 F.) ought to be reserved for hemorrhage after labor and for metrorrhagia due to fibromas or the menopause. Professor Pinard believes that accidents often result from injections given at too great pressure. Professor Pozzi obtains much benefit from speculums with lateral holes which prevent traumatism of the cervix by the injection. Dr. Jayle of Paris recommends the use of hot air at from 100 to 120 C. (212 to 248 F.) and of hot-air baths on the abdomen.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, April 18, 1913.

Annual Meeting of German Surgical Association

(Continued from page 1312)

ANESTHESIA IN ABDOMINAL OPERATIONS

Sprengel of Brunswick discussed the choice of anesthetics in operations for acute inflammatory processes in the abdominal cavity. He has entirely abandoned chloroform for such operations having had three fatalities from its use in six months in 1911. He regards chloroform as absolutely contraindicated for this group of affections, and recommends instead—what is doubtless less dangerous for such cases and probably to be generally recommended—morphin-ether anesthesia.

In the discussion, Kümmell of Hamburg stated that in 200 cases he had had good results with intravenous ether anesthesia (infusion of common salt solution with the addition of ether), and had never seen any complications. For abdominal operations, Finsterer of Vienna recommended local anesthesia in connection with primary ether anesthesia, the *Etherrausch.* Meisel of Konstanz referred to his observations previously published (1903) on the occurrence of acute yellow atrophy of he liver after chloroform anesthesia in cases of peritonitis.

DUODENAL ULCER

Küttner of Breslau made a report on duodenal ulcer. His material, consisting of his own cases and those obtained by a letter of inquiry, amounted to 800 cases. The difference noted between the observations of German and American authors depends not on geographic variations, but is to be explained by accidental causes, such as the kind of the material and of the observation. Recent pathologic investigations show the relation as to frequency between ulcer of the duodenum and ulcer of the stomach in the proportion of 3:5 or 1:3. According to the experience of German clinicians, the symptom of hunger-pain or pain occurring late after taking food is not pathognomonic, since it may also occur with adhesions, cholelithiasis, ulcer and carcinoma of the stomach and chronic appendicitis; on the other hand, it may be absent with ulcer of the duodenum. Nevertheless, it is a valuable aid in diagnosis. The recognition of the periodicity of the disturbances is important. Among the objective symptoms the determination of recurring hyperacidity and intermittent motor insufficiency has special significance (von Bergmann). The demonstration of occult bleeding may fail even in the florid stage. Spontaneous pain is found in the epigastrium mostly to the right of the middle line, but the location of the pain on pressure does not differ from that resulting from ulcer of the pylorus. With reference to the important aid of radiology, the observations of Haudek were cited. The diagnosis of an ulcer when the abdomen has been opened is favored by the internal palpation recommended by Wilms and Körte. The prognosis as to life is worse and the tendency to a spontaneous cure is less than with ulcer of the stomach, while the transformation into carcinoma occurs more rarely than in the latter affection. Internal treatment gives only temporary relief; it is yet to be seen whether the atropin therapy of von Bergmann will yield better results. Surgical treatment by a direct operation on the ulcer by excision, intussusception or resection is rarely indicated on account of the difficulty of the technic. Resection is justified only when carcinoma is suspected, and should be performed by the method of Billroth II. The method of choice is an indirect operation consisting in gastro-enterostomy, which, when there is no organic stenosis, should always be supplemented by closure of the pylorus. The closing of the pylorus, by von Eiselsberg's method can be done only when the technical conditions are very simple; otherwise shutting off the pylorus according to the method of Wilms (with a strip of fascia) or that of Bier (crushing) should be resorted to. Secondary bleeding and relapses may occur in rare cases even after closing of the pylorus. The internal after-treatment is very important. Perforated ulcer of the duodenum should be operated on as early as possible. The ulcer is sutured in, reenforced with omentum if necessary. Gastro-enterostomy should be added if the strength of the patient permits it; otherwise it should be performed later. Hemorrhages if acute and alarming should be treated conservatively but, if chronic, by operation.

In the discussion on the diagnosis of duodenal ulcer, Bergmann of Altona emphasized the importance of the local pressure point. Roentgenoscopy showing increased periastalsis and shortened time of evacuation, are important in the diagnosis, although not pathognomonic. The very frequent combination of ulcer of the duodenum with symptoms of a neurosis of the stomach seems to justify the assumption that there exists a connection between the two affections. Von Bergmann was able to show in each of thirty cases of ulcer of the duodenum the existence of local or general neurotic stigmata, which indicate a participation of the visceral nervous system (vagus and sympathetic). Also the pains with duodenal ulcer are mostly to be referred to spasm of the pylorus, and the hyperperistaltic and hypersecretory stages indicate likewise neurotic influences. For operation permanent stenosis of the pylorus is demanded.

SKIAGRAPHY OF DUODENAL ULCER

Haudek of Vienna discussed the interpretation of the roentgenoscopic findings: 1. Stenosis induced by cicatricial changes or spasm. Its location is mostly in the lower part. 2. A persisting shadow in the upper duodenum. This may be occasioned by stenosis, by the formation of a pocket as a result of an ulcer, but also by kinking as the result of periduodenitis. 3. The niche. This is generally a very small bismuth shadow outside of the normal shadow of the duodenum bismuth content. This niche represents the crater of a deep ulcer. 4. A circumscribed tender point which is exactly over the duodenum. 5. Abnormal rapidity of passage of the contents of the stomach into the duodenum. The period of evacuation is frequently shortened; but there is often delay in expelling the last portions and residues after six hours. Marked retention and dilatation of the stomach are never observed. The peristaltic waves of the stomach, as a rule, are very pronounced and the muscle tonus exaggerated. 6. Fixation of the pylorus as the result of periduodenitis. 7. The Roentgen findings characteristic of gastric ulcer are lacking.

Positive roentgenoscopic findings may support the diagnosis and occasionally make it sure, but the reliability and positive significance of the Roentgen findings in ulcer of the duodenum are by no means so great as those of positive findings in ulcer of the stomach. Skiagraphs showing apparently normal conditions in the stomach and duodenum must never be taken as justifying the conclusion that ulcer of the duodenum is absent. If the clinical picture suggests that an ulcer is probable, normal Roentgen findings indicate that the suspected ulcer is located in the duodenum rather than in the stomach.

Schmieden of Berlin stated that the constant occurrence of a bismuth shadow in the upper part of the duodenum, which is so frequently demonstrable by roentgenoscopy, is an important indication of the etiology of duodenal ulcer. The almost constant change of form of the stomach by ptosis kinks the upper part of the duodenum, and there is retention of its contents. This kink hinders the neutralizing alkaline intestinal juice from reaching the upper part of the duodenum and so favors the formation of an ulcer by the constant presence of acid chyme. From this point of view, duodenal ulcer appears to be an indirect result of the erect position of the body in man. Also the second most common change of form of the stomach with duodenal ulcer, the fixation of the pylorus on the right by adhesions to the colon and gall-bladder, is not to be regarded as a result but rather as a preexisting cause of duodenal ulcer. Here also abnormally constant fulness of the duodenum may be demonstrated. Under these circumstances the duodenum is unable to pass its contents along. A peptic ulcer once formed constantly retains thereafter acid masses in its depths. Analogies to the method of origin described are found abundantly in the rest of the intestinal tract. Schmieden called attention to the fact that the other accompanying symptoms of ulcer of the stomach and duodenum, such as the digestive hypersecretion and hyperacidity and especially the spastic conditions in the region of the ulcer (according to von Bergmann's view). are no longer to be regarded as symptoms of the disease but as being etiologically concerned in its production.

Friedrich of Königsberg called attention to the frequent coexistence of disease of the pancreas with duodenal ulcer—a condition which he has observed in six out of fourteen cases; in three carcinoma was present and in one a large pancreatic calculus was found. Bier of Berlin has operated in forty-nine cases of duodenal ulcer. twenty-six of them in the last year.

According to A. Schmidt of Halle, the diagnosis is usually made in advanced cases. In every case of hyperacidity, ulcers should be searched for, and to this extent the estimation of acid retains its value. Between ulcer and neurosis there exists a vicious circle, of which as a *rule the ulcer is the primary* factor. Schmidt doubts the opinion that it is impossible to cure duodenal ulcer by internal measures alone. The circumstance that pathologists *find no* healed ulcers is of no import for the contrary view, as the scars of a healed ulcer of the mucous membrane can be found only with the greatest difficulty. The internal treatment must be systematically carried on by clinical measures for a sufficiently long time. Even after the operation an internal treatment is required.

(To be concluded)

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, April 11, 1913.

Number and Distribution of Practitioners in Austria in 1912

A few days ago the official *figures of the* number *of* medical practitioners in this country were published in a report dealing with the sanitary statistics of the Board of Health. Thus in the year 1912, we had 13,599 medical men practicing, or an increase of 355 (2.5 per cent.) over the preceding year. The year before the increase had been only 62, or 0.5 per cent. In comparison with the population, the increase is more than proportional, for in 1911 there were 4.60 doctors per ten thousand of the population; in 1912 the figure was 4.68. As the average duration of the *life of the practitioners* was 59 years, and the average duration of their practice thirty years, the bulk of the doctors are now between the ages of 30 and 45 years, and the enormous increase in the number of medical students (mentioned in my previous letter) comes much too early to replace those who die. Therefore, a rapid increase of the doctors is to be expected within the following years. The conditions in Germany are very much like those with us. There too a marked increase is evident after a temporary fall in numbers before 1910, and *there too* a rapid increase in the number of medical students is taking place (120 per cent. within seven years), while the relation of the population is 5.06 doctors per ten thousand. This compared with Bulgaria (1.64 doctors per ten thousand) or Servia (0.9) shows how much space there is yet left in Europe for trained doctors.

The distribution of medical men in Austria in regard to the territory was 4.92 per hundred square kilometers (about 40 square miles) in 1911, and 4.53 in 1912. The main increase in numbers took place in Vienna (154 men) *and then* in the country districts of Galicia. In all towns except Lemberg the number has gone up: the increase was greatest at Innsbruck (11 per cent.), Brünn (8 per cent.) and Graz (5 per cent.). In Lemberg it decreased 2 per cent. Vienna has now 3.235 doctors; a year ago it had 3.081. The increase was 4.8 per cent.; a year ago it reached only 1.1 per cent., and there are now 15.4 doctors per ten thousand inhabitants (last year 15). Berlin has only 11 per ten thousand. In the smaller towns and villages *of* Lower Austria, *the number* has gone down, and in the flat country it went down more, so that instead of 4.99 per ten thousand in 1910, and 4.85 in 1911, it was only 4.21 last year. Olmütz with 25.000 population holds an exceptional position. There were 56 doctors, or 25 per ten thousand. A year ago the relative figure was 27.7 and the decrease is only too welcome. One feature is distinctly visible in the report. In the German provinces, the number of practitioners living outside *of* the *towns or* larger villages is constantly decreasing, while in the Slavic provinces it is at least stationary where not increasing. The reverse holds good for towns and cities. The explanation is a most unexpected one. The majority of medical students are Jewish, while the German population is anti-Semitic. Therefore in German countries the German non-Semitic doctors obtain easily the better-paid appointments *in the towns*, while the Jewish doctors flock to the countries where they are more tolerated. The non-Semitic doctor is thus *not forced to accept the badly paid* country appointment.

A further marked increase has taken place in regard to the specialists. Even in smaller towns we already find dermatologists, gynecologists and ophthalmologists. In larger towns the increase is strikingly rapid. The following figures show the actual conditions:

	1905	1910	1911	1912	Increase Per cent.	Total Doctors Per cent.
Vienna	361	475	504	579	60	17
Graz	52	71	74	87	70	24
Prague	..	200	213	229	15	22

These conditions are due not to the need for so many specialists, but to the fact that so many young doctors obtain excellent instruction in the numerous hospitals. Meanwhile suggestions have been made to create whole-time appointments for specialists in hospitals, so as to do away with a number of them in private practice. The number of *female* doctors has gone up by twenty-five per cent. and is *now* 125, while a year ago it was 100. The relative figure as regards the *total number of doctors, is now* 9 per thousand; it was 7 per thousand a year ago. The majority (55, last year 46) live in Vienna, 40 in Galicia and in other by towns we find from 2 to 15. It seems that the movement of female medical study is gradually ebbing off, perhaps on account of the moderate prospects offered to women in medical practice. It is interesting to note that the number of vacant appointments is increasing. This is partly due to the boycott of such posts by the medical organizations, partly to the religious *prejudices* mentioned above. Altogether the rural *appointments* are badly paid, *especially those of the state*. A doctor is expected to take care of a very extended borough and the medical provisions under the poor law have caused wide-spread dissatisfaction among the profession. It is no rarity to find not more than one doctor in areas of 20 or 30 square miles in certain districts, and as the population is very poor and the standard of hygiene low, private practice does not pay. Hence the numerous vacant posts, some of them vacant for over two years. While wide areas lack the necessary medical help, in certain places there is *overabundance*. The health resorts *especially show* such *overcrowding* that the conditions are extremely bad. In Carlsbad there were last year 172 doctors (3.5); in Marienbad 76 (3 per cent.); in Franzensbaden 56 (7.5 per cent.); and in Baden 41 (5 per cent.). In the Tyrol, there were in Meran 52, in Bozen 29, and in Arco and Riva 22 each, the last being small towns or large villages. In Abbazia we had 60 doctors, in Hall 24. These figures work out about one doctor for two or three hundred visitors at these health resorts, but *it must be kept in mind that*, owing to *their short stay, hardly 50 per cent. of the* visitors really ever *require the services of a doctor. Thus it happens that* the average income of a practitioner, as pointed out recently in an investigation conducted by the Union of Medical Councils, does not reach $1,000 a year from his practice, from which resulted the *increasing* number of conflicts between sick clubs and other friendly societies on one side and the various medical *organizations* on the other side. The latter try to obtain better renumeration for professional work than that paid hitherto. Together with the highly increased cost of living, the rise in duties and taxes to be paid by the practitioner and the *increase* in competition, the outlook for the coming generation *of doctors is gloomy enough* to justify the advice to take up another vocation, if possible.

Marriages

WALTER MIDKIFF CRANDALL, M.D., [illegible] C. Z., to Miss Esther Mildred Watson of [illegible] N. H., at Cristobal, C. Z., April 6.

EZRA POLK DICKINSON, M.D., Hastings, Pa., to Miss Leonore M. Richardson of Berlin, Md., at Philadelphia, April 14.

ROBERT BEECHER CARSON MURDY, M.D., Aberdeen, S. Dak., to Miss Hazel Brown of St. Cloud, Minn., May 1.

J. WILEY THIMLAR, M.D., Fort Wayne, Ind., to Miss Edith Rolf of New Haven, Ind., in Chicago, April 16.

FRANCIS GOODELL BARNUM, M.D., to Miss Ida Etta Teague, both of Hyde Park, Boston, April 16.

BERNARD B. NEUBAUER, M.D., Detroit, to Miss Florence B. Nusbaum, at Baltimore, April 16.

LOUIS N. BURLEYSON, M.D., Concord, N. C., to Miss Alice R. Boylan of Baltimore, April 12.

VICTOR P. DIEDERICH, M.D., Madison, Wis., to Miss Anna O'Leary of Chicago, April 30.

DUNCAN EVE, JR., M.D., to Miss Louise Stubblefield, both of Nashville, Tenn., April 16.

LORENZO ROUNDS, M.D., Lewiston, Neb., to Mrs. Mary Russell of Howe, Neb., recently.

JOSEPH SAMUEL COHN, M.D., to Miss Mamie Bishkow, both of Chicago, April 6.

Deaths

Charles A. Daugherty, M.D. Bennett Medical College, Chicago, 1874; Medical College of Indiana, Indianapolis, 1879; a member of the Board of Trustees of the American Medical Association; once president of the Indiana State Medical Association; and one of the most prominent and beloved practitioners of northern Indiana; died at his home in South Bend, April 23, from malignant disease, aged 62. Dr. Daugherty was born in Wooster, O., Nov. 23, 1850, and received his preliminary education at Mishawaka High School, and Hinsdale (Mich.) College. Immediately on his graduation in medicine he began to practice in South Bend, where he soon attained a reputation for skill, care and thoroughness.

He was a member of the American Medical Association for many years; for six years councilor of the Thirteenth District and a charter member of the St. Joseph County Medical Society. He was a member of the staff and lecturer on surgery at the Epworth Hospital and Training School for Nurses, South Bend; he was also chief surgeon for the Northern Indiana Railway, district surgeon for the Grand Trunk system and local sur- n for the Vandalia road. twelve years' he was a ber of the board of edu- on and at one time its president. He began to suffer from symptoms which he referred to the gall-bladder in October last.

At the time of the last meeting of the Board of Trustees of the Association, Dr. Daugherty was in attendance and at that time consulted Dr. A. J. Ochsner of Chicago who advised an exploratory operation. This revealed the existence of an inoperable carcinoma involving the gall-bladder head of the pancreas and common duct. The incision was closed and Dr. Daugherty, after a short time in hospital, returned to his home in South Bend to await death.

Charles A. Daugherty, 1850-1913

Alvah F. Whitman, M.D. University of Michigan, Ann Arbor, 1865; one of the oldest practitioners of Minnesota; since 1896 necrologist of the Ramsey County Medical Society; died at his home in St. Paul, April 20, from cerebral hemorrhage, aged 81.

Charles James Fox, M.D. New York University, New York City, 1876; a member of the American Medical Association and Association of Military Surgeons of the United States; surgeon-general of the National Guard of Connecticut in 1886; once president of the National Association of United States Pension Examining Surgeons; of Hartford, Conn.; died in a hospital in that city, April 18, from diabetes, aged 58.

George L. Stubinger, M.D. Chicago Homeopathic Medical College, 1892; National Medical University, Chicago, 1894; formerly of Kewanee, Ill., but for the last three years a practitioner of Watts, Okla.; was burned to death in a hotel fire in that place, April 6.

Thomas W. Mulhern, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1882; aged 68; a member of the Iowa State Medical Society; of Greenfield, Ia.; died near that place, April 19, while attempting to crank his automobile.

Francis O. Ilstrup, M.D. University of Minnesota, Minneapolis, 1894; of Grasston, Minn.; died in the Minnesota State Prison Hospital, Stillwater, April 1, from cerebral hemorrhage.

Joshua William Beede, M.D. Bellevue Hospital Medical College, 1864; formerly professor of materia medica and therapeutics, and of diseases of children in the Lewiston (Me.) Medical School; a trustee of Colby College, Waterville, and a member of the medical staff of the Central Maine General Hospital, Lewiston; died at his home in Auburn, Me., March 21, from senile debility, aged 80.

Parley H. Johnson, M.D. College of Physicians and Surgeons, New York City, 1865; assistant surgeon in the Navy during the Civil War; a member of the Medical Society of the State of New York and a practitioner of Adams for forty years; died suddenly in the New York Central station in Watertown, April 16, from cerebral hemorrhage, aged 74.

Isaac W. Scott, M.D. Transylvania University, Lexington, Ky., 1850; colonel of the Fifth Kentucky Volunteer Cavalry during the Civil War; for eight years surgeon-general of the state; since 1871 a resident of New Orleans; died at his home in that city, April 11, from senile debility, aged 86.

Robert Lindsey Carter, M.D. Hahnemann Medical College, Chicago, 1894; formerly town physician of Rockport, Mass.; died at his home in Gloucester, Mass., April 10. aged 41.

W. G. Carter (license, Kentucky, forty-seven years' practice, 1894); a pioneer practitioner of Morgan County; died in his home at West Liberty, April 12, from senile debility, aged 91.

Isaac Ardis, M.D. University of Louisville, Ky., 1874; once postmaster of Greenville, Texas; died at his home in that place, April 18, aged 62.

Frederick William Darner (license, Connecticut, 1893); formerly of New York City; died at his home in Putnam, Conn., April 15, aged 47.

Joseph J. Currie, M.D. Hahnemann Medical College, Philadelphia, 1866; died at his home in Beverly, N. J., March 24, aged 68.

William S. Kendall, M.D. Tulane University, New Orleans, 1868; died suddenly in his office in Ruston, La., April 14.

Frederick A. Cribbins, M.D. Jefferson Medical College, 1911; of Saginaw, Mich.; died in that city, April 13, aged 30.

Denis Aloysius O'Brien, M.D. Harvard Medical School, 1892; died at his home in Boston, March 30, aged 45.

Philip G. Trunnell, M.D. University of Louisville, Ky., 1871; a Confederate veteran and a member of the famous Orphan Brigade; at one time a member of the board of school trustees of Louisville; died at his home in that city, April 14, from nephritis, aged 67.

James T. Hensley, M.D. Washington Homeopathic Medical College, 1894; a veteran of the Civil War and for more than thirty years an employee of the War Department; died at his home in Washington, about April 12, aged 69.

Frank Graham, M.D. Medical College of Ohio, Cincinnati, 1880; a member of the American Medical Association and a prominent practitioner of Lisbon, O.; died in the City Hospital, Youngstown, Ohio, April 14, aged 62.

Bryan B. Ashbrook, M.D. Columbus (O.) Medical College. 1882; of Pataskala, O.; aged 55; while crossing the Pennsylvania tracks in his automobile, April 21, was struck by a train and instantly killed.

Joel Yingling, M.D. University of Maryland, Baltimore, 1878; died at his home in Baltimore, April 14, from pulmonary hemorrhage, aged 66.

Emma Ardella Buck Runnion, M.D. Syracuse (N. Y.) University, 1888; for twenty-five years a resident of Syracuse; died at the Syracuse Hospital for Women and Children, February 13, from lobar pneumonia, aged 58.

Frank Atwood Shurtleff, M.D. Albany (N. Y.) Medical College, 1864; for more than forty years a member of the school committee of Somerset, Mass.; died at his home, April 9, from senile gangrene, aged 75.

James Van Brakle, M.D. New York University, New York City, 1865; for more than forty years a practitioner of Brooklyn; died at his home in Forest Hills, L. I., April 14, from senile debility, aged 85.

Harriet Adaline Thompson, M.D. Woman's Medical College of Pennsylvania, Philadelphia, 1893; a member of the Connecticut Medical Society; died at her home in Bridgeport, Conn., April 18, aged 64.

Mary Elizabeth Edsall McCartney, M.D. Electropathic Institute, Philadelphia, 1885; a practitioner of Rochester until two years ago; died at her home in Avon Park, Fla., April 11, aged 65.

Charles M. Jones, M.D. St. Louis Eclectic Medical College, 1883; for four terms mayor of Baxter Springs, Mo.; died at his home in that place, April 11, from pneumonia.

Christopher M. Monroe, M.D. Cincinnati College of Medicine and Surgery, 1880; a veteran of the Civil War; died at his home in Canton, O., April 17, from heart disease, aged 68.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

TRUTH IN ADVERTISING

Law Enacted by Some States and Considered by Others

Advertising is such a tremendous force in modern business and so many abuses have grown up in it that its regulation by law has become an absolute necessity. Advertising men themselves have now realized the necessity for regulation, and have taken the first practical steps toward this end. The common law and general statutes in regard to fraud and false pretense are supposed to cover the question of deception in advertising, but in practice these have not been sufficient. Therefore, *Printer's Ink*, a publication devoted to the advertising business, encouraged by organizations of advertising men who realized that it was to their interests and even essential to the life of the advertising business that fraud should be eliminated, had prepared a model law intended to overcome the weakness of the common law and general statutes as applied to advertising. This model law is as follows:

AN ACT RELATIVE TO UNTRUE, DECEPTIVE AND MISLEADING ADVERTISEMENTS

Be it enacted, etc.

Any person, firm, corporation or association who, with intent to sell or in any wise dispose of merchandise, securities, service, or anything offered by such person, firm, corporation or association, directly or indirectly, to the public for sale or distribution, or with intent to increase the consumption thereof, or to induce the public in any manner to enter into any obligation relating thereto, or to acquire title thereto, or an interest therein, makes, publishes, disseminates, circulates, or places before the public, or causes, directly or indirectly, to be made, published, disseminated, circulated, or placed before the public in this state, in a newspaper or other publication, or in the form of a book, notice, hand-bill, poster, bill, circular, pamphlet, or letter, or in any other way, an advertisement of any sort regarding merchandise, securities, service, or anything so offered to the public, which advertisement contains any assertion, representation or statement of fact which is untrue, deceptive or misleading, shall be guilty of a misdemeanor, and shall be punished by a fine.

Through the action of vigilance committees appointed by advertising clubs throughout the country, this model law has been embodied in a bill and introduced into the legislatures of a number of states. This bill, where introduced, has been reported on favorably by the legislative committee to which it was referred, in all states except South Carolina. The bill, with slight modifications which in no wise seriously impair its effect, has been enacted into a law in Ohio, Minnesota and Washington. April 26 the first case under the new law in Minnesota came up in the district court in Minneapolis. A local shoe-store was accused of having advertised a certain line of shoes in a manner declared to be fraudulent. The vigilance committee of the organization of advertising men furnished the evidence on which the prosecution was based.

In Maine the bill with some changes was passed by both houses of the legislature but was vetoed by the governor. When the attempt was made to pass it over the governor's veto, it lacked one vote of being carried.

While the bill was received with the greatest favor in all of the states in which it was introduced, and in Congress as applying to the District of Columbia, yet in some states, probably through the influence of those who oppose any legislation of this sort, efforts were made to change the bill. In Indiana, New York, Oklahoma, Pennsylvania, South Dakota Utah and West Virginia attempts were made to amend the model bill by inserting the word "knowingly," and in the bill affecting the District of Columbia the word "wilfully," which would of course greatly weaken the force of the measure by making it necessary to establish the fact represented by those elusive terms. In Oregon an attempt was also made to cripple the bill by making it necessary to find some one who is injured by the advertising complained of. While these changes do not at first sight seem unreasonable, they make exactly the loop-hole of escape for the dishonest advertiser which it is desired to avoid and they are not needed by the advertiser who wishes to be truthful in his advertising. Such terms were intentionally left out of the model bill by its framer. It is the word "knowingly" which has rendered an existing statute in the state of New York practically a dead letter, and the vigilance committees of the advertising organizations in that state in attempting to enforce the law have had that difficulty to overcome. Pennsylvania and Massachusetts have enacted statutes embodying the word "knowingly," and in that respect have practically nullified their efforts to regulate the advertising business. In Missouri the model bill was introduced and promoted through the influence of the National Federation of Retail Merchants, but was voted down in the legislature without much discussion. One or two members said they did not believe it was a good bill. It is asserted that the bill was killed through the influence of the newspapers in the large cities, as every member from Kansas City, St. Louis and St. Joseph voted against it. The legislature passed a "blue sky" law to prevent the selling of bogus stocks and bonds, but would not stand for a law to prevent advertising them. In view of the fact that the state of Missouri, and particularly the cities named, as well as Joplin in the zinc district, are hotbeds of advertising quacks, the failure of the statute against fraud in advertising is to be deplored.

The governor of Maine gave among his grounds for vetoing the bill that as enacted it was "too drastic a departure from the usual type of criminal statutes against practices, in that neither fraudulent intent nor actual injury to any one was regarded as an element of the crime created." He did not "believe that public policy required that the business world should be subjected to this hazard of criminal liability for acts which the most honorable and careful man might occasionally commit without harm to anyone.' He called attention to the fact that the terms usually employed in criminal statutes, such as "knowingly," "wilfully," "maliciously," "with intent to defraud" and "with intent to deceive," were not included in the act. He believed that such a law would unnecessarily discourage the genius of the American people for advertising, and that it would be difficult to find a jury that would convict or a court that would impose a fine for a publication that might be construed as "misleading." It was his conviction that the statutes already existing were sufficient, and if not, they could be amended so as to meet all reasonable demands. Aside from these lawyer's objections to the bill, the opposition has come chiefly, as might be expected, from the "patent-medicine" interests, from the loan sharks, clairvoyants, those having fraudulent stock schemes, and others who feel that it will curtail or abolish their business, which, it would seem, would be a most desirable effect of the law. Some objections were also raised by the publishers of newspapers and periodicals, who felt that the law would penalize them for publishing misleading advertisements; but this, it is declared by the author of the bill and by those in a position to judge, would not be the effect of such a law. The purpose and effect of the law would be to place the burden of guilt on the originators of the advertisements, those intending primarily to profit by them, who should bear the responsibility for publishing untrue, deceptive or misleading advertisements. To overcome this objection of the newspapers, an amendment to the model bill was enacted in Washington especially exempting newspapers and periodicals from the penalty of the act. Though this is believed to be entirely unnecessary, it in no way impairs the effect of the law. The advertising men's associations, through their vigilance committees, have exercised, as far as possible, a beneficial censorship over the advertising matter handled by them, and where this model bill has been enacted into a law, they are actively engaged in seeing that its provisions are carried out. This aid would seem to be from the right source to make the law effective. In the states which have not as yet enacted this or a similar law, or those in which laws have been enacted which, on account of amendments, do not prove to secure the [illegible] effect of truthfulness in advertising, experience would undoubtedly suggest the enactment of such model laws or the amendment of those in force, so that the situation is at present most encouraging.

Printer's Ink says that when you kill a dishonest advertiser you make ten honest ones. When the truth of this maxim is demonstrated, as has been done in the case of at least one of the great New York dailies which, under this policy, in fifteen years increased its advertising space over 400 per cent. and its circulation over 800 per cent., and attributes its growth to this policy, the opposition on the part of advertising mediums will cease and the dishonest advertiser will disappear from the advertising columns.

DR. EDWARDS' OLIVE TABLETS

Dr. Edwards' Olive Tablets are purgative pills sold under claims that are either directly or inferentially false. The public is given the impression both by the name of the preparation and by the claims in the advertising that these pills owe their value to the presence of olive-oil. For instance:

> "They oil the bowels."
> "They are a purely vegetable compound mixed with olive-oil."
> "A combination of vegetable materials mixed with olive-oil."

They are also referred to as "olive-oil colored" tablets—a misnomer as the pills are a vivid green. They are very small and a dose consists of one or two tablets. If they were composed wholly of olive-oil, the amount of oil taken at a dose would be so absurdly small as to be negligible and worthless for the purpose recommended. As a matter of fact, instead of being composed of oil they are hard, black, green-coated tablets. Cursory tests in the Association's laboratory indicated that they were essentially an aloes pill, although they go to the public as "a new laxative."

ONE OBJECTION TO PRESCRIBING PROPRIETARIES

The real objections to the prescribing of proprietaries are those based on considerations of public health and scientific medicine. But there is an economic phase to the question, too.

"If you prescribe Antikamnia, Cystogen or Purgen and your patient feels better or gets well," said an old druggist to a young practitioner, "the patient will be a walking advertisement for the respective proprietaries. If, on the other hand, you prescribe acetanilid, hexamethylenamin or phenolphthalein, in the form of a regular prescription, he will recommend the prescriber—you—to his best friends."

Correspondence

Farinaceous Diet and Auto-Intoxication

To the Editor:—Dr. von Noorden's article ("Intoxication Proceeding from the Intestine, Especially Polyneuritis," THE JOURNAL, Jan. 11, 1913, p. 101), has interested me greatly, for I enjoy criticism and find that it is useful, even when it is incorrect and unjust.

I do not exactly understand why Dr. von Noorden declares my theory of auto-intoxication unscientific. Is it because it has not been proved in all details? On this point he and I are in agreement, for I have always hoped to see the scientific proof that the works of Charrin alone have announced. Is it because I advised (ten years ago, page 292) the estimation of the natural aromatic substances to demonstrate intestinal auto-intoxication since the sulpho-ethers [ethereal sulphates] do not give an exact idea because they do not contain the group combined with glycuronic acid (page 293)? If so, why does Dr. von Noorden employ exactly the same method and why does he use exactly the same reasoning to-day? How does it happen that these ideas are not scientific when they come from my pen while they are so in his writings? Can it be that Dr. von Noorden forgot to read my book before criticizing it? In fact, if intestinal auto-intoxication is not yet scientifically proved in all details—which is fully recognized—this is due to the insufficiency of our knowledge of the microbic decomposition of the albuminous molecule at the time when I first presented my theory. But, thanks to the works of Fischer, Kutscher, Abderhalden and many others, we are brought nearer to the long-anticipated moment.

Among the pediatricians no one doubts this theory any longer. All the pediatricians, Finkelstein and Czerny at their head, affirm and demonstrate medically and clinically that the symptoms of dyspepsia, athrepsia and intestinal catarrh of infants are due to intestinal auto-intoxication. And have not the magnificent researches of recent years on the decomposition of albumin demonstrated the direct relation existing between intestinal microbic action and the production of the sepsin studied by Bergmann and Schmiedeberg, and especially of histamin, whose extraordinary toxic action has been explained by Berges and Dale? Now this histamin has been demonstrated in the feces quite recently by two English authors, Mellanby and Trout. Thus, stone by stone, has been built up the scientific demonstration of intestinal intoxication, of which, I believe, I caught a glimpse clinically and which German medicine has always rejected with disdainful smiles. Here and there, to be sure, even in Germany, some credit is given to this theory. Did not a professor of the University of Vienna, Professor Pick, write a few days ago: "The fermentative action of the intestinal flora may, in pathologic cases, produce albuminous decomposition up to the point of the production of extremely toxic substances. Therefore, serious attention is beginning to be given, in recent times, to microbic action, and the facts which are already known make it possible to assume that the doctrine of intestinal auto-intoxication will receive an important demonstration from this study (*wesentlichen Ausbau.*)"

Dr. von Noorden, who has always, up to the present, combated and defied the theory of auto-intoxication, sees which way the wind is blowing and trims his sails accordingly. I am very glad of it; but why does he feel the need of destroying whatever has been said or written on the subject before? This is very human but not very scientific.

Dr. von Noorden does not understand that I use starchy diet to combat albuminous putrefaction. But this principle is Viennese in origin and due to Escherich, and it has a very scientific base, which has quite recently been illustrated by the researches of Mellanby and Trout which demonstrate that the presence of carbohydrates and the acids derived from them prevents the production of histamin.

Finally let us not forget that if one may judge a tree by its fruits, clinical practice has shown us without any possible doubt the remarkable results given us by a starchy diet in the prevention of intestinal putrefaction.

Dr. von Noorden says that "protective diet," as he calls my diet, weakens the intestine. I cannot demand that Dr. von Noorden should read my books before criticizing them; that would be expecting too much devotion of him; but this would have enabled him to realize that on every page I insist on the necessity of changing the starchy diet as soon as the result is obtained and of gradually modifying it toward a normal diet. Here is a passage selected at random from page 309 of my book on the treatment of enteritis: "When under the influence of the farinaceous diet that has just been described, the intestine has become less sensitive and the attacks of colic have ceased, when the general condition has improved considerably, this first diet of chronic enteritis should be modified. This will be most generally after the sixth month of treatment. Too prolonged employment of this uniform and too digestible diet renders the intestine much more sensitive to dietary changes. Therefore it is necessary to introduce into the menu, little by little, slowly and progressively, substances which are more putrescible and more difficult to digest than the starches, in order to stimulate the intestine and to incite its antitoxic function." This example shows how far my treatment is an "exercise cure" rather than a "protective diet," and that, after ten years, it has conformed to the rules laid down to-day by Dr. von Noorden.

To summarize, von Noorden begins to admit the theory of intestinal auto-intoxication, which he has always condemned. It is, for him, the first step on the way to Damascus. Let us applaud! And let us, by this joyous gesture, terminate our strife.

Adolphe Combe, M.D., Lausanne, Switzerland.

A copy of this letter was sent to Dr. von Noorden, who replies:

To the Editor:—I thank you that you were kind enough to send me the letter of Dr. Combe. I hope the discussion and the mutual critique will be of service to medical science and prove the congeniality of our opinions rather than the contrasts.

Dr. Combe is not right in saying that hitherto I have been an antagonist of the auto-intoxication theory. I never published a paper about this question, with the exception of the remarks in my old text-book on the disorders of metabolism (published 1893), and other remarks on the connection between diseases of the skin and intestinal fermentations in "Handbuch der Pathologie des Stoffwechsels" (1907). The first remarks were of mere critical nature and in the meantime proved to be quite right; the second ones show that I accepted the theory. Indeed, I never lose these questions from sight and my assistants and I followed them carefully by observations and by experiments.

There is not the slightest doubt that for years I have agreed with Dr. Combe that there exist pathologic intestinal fermentations. But there are different opinions on the extent we are allowed to give this conception. I agree with Dr. Combe in regard to some disorders, but I am convinced—not by theory but by experience—that he goes much too far and often puts matters together which do not depend one on another. Therefore I used the words "uniformity of conception." But there is one word printed in the English text which I very much regret. It is the word "unfairness." In the German text there stood the word *Einseitigkeit* (uniformity), and this word is also found in the German edition of my lecture. Your translator made the mistake, and I am sorry that this error escaped my notice when I read over the English draft which you submitted to me.

[In the original the passage referred to reads: "Die Einseitigkeit betrifft nicht nur den theoretischen Teil seiner Deductionen, sondern spiegelt sich auch in den therapeutischen Folgerungen und Nutzanwendungen wieder." A later sentence says: "Es herrscht eine Einförmigkeit der Auffassung und der Behandlung, wie beim militarischen Drill." "Einseitigkeit" cannot be translated "uniformity." "Einseitigkeit" is defined as meaning one-sidedness; bias; partiality, unfairness; one-sided (or narrow) view or judgment of things. It will be noted that in the second passage quoted, when he wished to convey the idea of uniformity, Dr. von Noorden used the word "Einförmigkeit," which was correctly translated "uniformity."—Ed.]

I fully agree with Dr. Combe that the etheric sulphuric acids [ethereal sulphates] cannot be considered as a reliable measure for bacterial destruction of albumin; but the same must be said about the aromatic substances themselves. The excessive increase only is to be trusted.

Of course Dr. Combe gets by his "protective treatment," when time goes on, the result that the patient can return to ordinary food, and indeed that protective treatment is often the only right method, as I freely admitted in my paper. But there are a great many cases (as colica mucosa and as constipation with toxic consequences), in which this way is unnecessary and only leads to a prolongation of the diseased state. Years ago I insisted that one should prefer in such cases the "exercise therapy." Often enough I compared both ways and I think everybody who has done the same must agree with me that the definite results of the exercise treatment are the more satisfactory ones. I have to complain that this clear matter of fact, which is proved by every-day experience, is by many authors neglected and is treated as non-existing. Perhaps I used rather strong words when emphasizing the importance of that method of therapy, but surely it was only my conviction and not in any way personal animosity which dictated them, as I fully acknowledge the scientific exertions of Dr. Combe, and as I often use his own ways in cases which I think to be appropriate, as mentioned in my lecture.

The end in view was to warn against generalizing the "protective treatment" in cases I quoted.

Carl von Noorden, M.D., Vienna, Austria.

Digestible Bread and Newspaper Fakes

To the Editor:—In your issue of February 15, under the title "Digestible Bread and Newspaper Fakes," you publish an editorial in which you implicate the *North American* as the medium and myself as the author of a "fraudulent claim" and "misguiding pronouncement" in connection with my article of January 6 concerning Mrs. Lydia Coale Sharpless' method of bread-making. I cannot allow your reflection on my integrity to pass unchallenged.

Before writing the article in question, I discussed every phase of the matter with Dr. Edward Tyson Reichert, professor of physiology in the Medical School of the University of Pennsylvania, whose standing in the profession is, I am told, very high. I based my technical statements on information he gave me, and to insure that degree of accuracy with which I invariably seek to accompany every article written by me, whether signed or unsigned, I read to Dr. Reichert the finished article, prefacing the performance with a request that he correct me wherever I might be wrong, for I am not a scientist. He suggested only one change. I had said Mrs. Sharpless' discovery indicated a skill in chemistry which, if developed, might have entitled her to a place beside Mme. Curie, one of the discoverers of radium. "Why not say that undoubtedly her discovery will be of greater benefit to humanity than Madame Curie's?" he interposed. I made the change and he said "That is better." When I concluded the article, he said he wished more scientific matters might be so "accurately presented to the general public." Ten days later he acknowledged that he had unintentionally misinformed me, admitting that all the information he had given me was based on experiments made fifteen years ago and a U. S. government bulletin issued at that time.

As soon as I was able to verify Dr. Reichert's revised statements, I wrote and signed a second article which was published in the *North American* of January 25 and printed on the same page of the paper as the first article. For the benefit of those misled by your characterization of this as a "semiveiled" retraction, I submit the following extracts therefrom:

"Two weeks ago the *North American* printed an extensive article about a new method of bread-making discovered by Mrs. Lydia Coale Sharpless, of this city. The chief feature of this bread as therein emphasized was its remarkable digestibility, due, as was stated upon the authority of Dr. Edward Tyson Reichert, professor of physiology in the University of Pennsylvania, to its high content of gelatinized starch. . . .

"A few days after its publication, the *North American* was informed by Prof. Charles H. La Wall that he had tested two samples of baker's bread, bought in the regular way at large grocery stores, and had *found* in them slightly more gelatinized starch than existed in a sample of Sharpless bread examined at the same time. At his request, I repeated these tests, with results similar to his.

"Then I saw Professor Reichert, who . . . authorized the publication of this statement:

"'I have been engaged for some days past in examining various specimens of bread and crackers, and I am inclined to believe that the modern methods of making the dough and the better methods of baking are yielding products in which, as in the Sharpless bread, practically all of the starch is gelatinized. In other words, what Mrs. Sharpless has accomplished is also being done by *all* of our first-class bread and cracker bakers.' . . .

"Further tests by Professor La Wall, in each instance corroborative of his own previous ones and of those made by Professor Reichert after publication of the interview he authorized, seem to offer conclusive evidence that, in so far as *gelatinization of the starch* is concerned, there is no material *difference* between ordinary baker's bread and Sharpless bread.

"As to other qualities which may make the latter especially digestible by weak or disordered stomachs, the *North American* has *nothing to say*."

I wrote another article about the Sharpless bread which, though never printed, is of paramount importance, in view of your statements that "hundreds of credulous and well-meaning laymen and not a few physicians were beguiled into the belief that the 'staff of life' is indigestible," and "to add to the irony of the situation, the readers are now told that white bread has long been free from raw starch, but that the doctors didn't know it."

This article was an interview I had with the *professor of* the theory and practice of medicine and of clinical medicine in one of the three largest medical colleges in Philadelphia—an authority whose standing is evidenced by the fact that *one of* his books is advertised in the same issue of The Journal which contains your editorial reflection on my veracity.

This professor freely discussed the digestibility of bread, and when the manuscript was submitted to him for correction, he made no change other than the substitution for his name of the words "a physician"—though he did add this autographic comment: "Article excellent, but 'ethics' prevents use of my name"—signing his initials.

In the article thus personally and autographically authorized, he says: "It is well known, of course, that the raw starch in ordinary white bread is one of the commonest causes of dyspepsia and intestinal fermentation. . . . Bread is such a common and necessary food that many persons never stop to think about it as a trouble-maker. Yet it is the source of much suffering, especially when eaten fresh-baked." So I furnish you with documentary evidence that at least one doctor didn't know!

By the time this article was O. K.'d Dr. Reichert had acknowledged his mistake, so it was not published. I cannot personally object to your remarks about the "offences" of the press against public welfare, since the *North American* always has served both the public and the medical profession in the fairest and most useful manner.

Leigh Mitchell Hodges, Philadelphia.

Analogy Between Meningitis and Poliomyelitis.—The two diseases are analogous in their constant endemic occurrence in sporadic form, and their occasional occurrence in epidemics, which are characteristically of irregular distribution. They are further analogous in their comparatively small incidence in the total population, their preponderating incidence in childhood, the scattering of cases with no obvious lines of contact, and in the fact that each has a distinct though not absolutely limited seasonal prevalence.—W. H. Frost, *Am. Jour. Pub. Health.*

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

INSTITUTIONAL TREATMENT OF EPILEPSY

To the Editor:—I have been much interested in your recent editorials on the subject of epilepsy. May I trouble you to tell me where may I learn more about its care in institutions? What states make institutional provisions? What organizations are working along this line and what literature is there to be had? R. A. C.

Answer.—The following is a list of the institutions which are exclusively devoted to the care of the epileptic:

Ohio.—Ohio Hospital for Epileptics, Gallipolis. Dr. G. G. Kineon, superintendent. Founded 1892. Census, 1,431. Cares for both sane and insane epileptics. The buildings are rather large detached buildings.

New York.—Craig Colony for Epileptics, Sonyea. Dr. William T. Shanahan, superintendent. Census, 1,428. Founded 1894. Intended originally for high-grade cases only, but now contains all classes, except the markedly insane.

Letc[illegible] [illegible]iels, Rockland County. Dr. C. S. Little, [illegible] for both feeble-minded and epileptic of the [illegible] district.

Massachusetts.—Massachu[illegible] Palmer. Dr. Everett Flood, [illegible] [illegible]ileptics, at sane epileptics received. Th[illegible] 835. Only [illegible] children is an important part of the work. Small cottages.

New Jersey.—New Jersey State Village for Epileptics, Skillman. Dr. David F. Weeks, superintendent. Census, 345. Small cottages. The feeble-minded males have also been placed by law at this institution, and buildings are in course of erection; also a *hospital* building. Educational and psychopathologic study are important parts of the work.

Kansas.—Hospital for Epileptics, Parsons. *Dr. M. L. Perry, superintendent.* Census, 484. Takes both sane and insane epileptics. The *size of* building varies with the mental grade of the patient; the higher the mentality, the smaller the building.

Texas.—Epileptic Colony, Abilene. Dr. T. B. Bass, superintendent. Census, 375. All classes of epileptics received except the low mental grades.

Indiana.—Indiana Village for Epileptics, New Castle. Dr. W. C. Van Nuys, superintendent. Sane epileptics only are received. The buildings are small cottages. *Census*, 115.

Virginia.—Virginia State Epileptic *Colony*, Madison Heights, near Lynchburg. *Dr. A. S. Priddy, superintendent.* Census, 121.

Connecticut.—An institution has *been opened* at Mansfield Depot under the superintendency of Dr. D. L. Ross.

It must be remembered that epileptics *are also* cared for in hospitals for the insane *and in homes* for the feeble-minded, in neither of which can *they* be properly classified, unless what *amounts to* a separate institution is formed within them. There are also semiprivate enterprises caring *mostly for* epileptics as follows:

The Passavant Memorial Homes for the Care of Epileptics, Rochester, Pa.

The Emmaus Asylums, St. Charles and Marthasville, Mo.

The Pennsylvania Epileptic Hospital and Colony Farm, at Oakbourne, Pa.

The Silver Cross Home, at Port Deposit, Md., also cares for a number of epileptics.

Illinois is the *only* state as *yet* without a colony in which a fairly active movement is being made for one.

There are associations dealing with epileptics as follows:

The National Association for the Study of Epilepsy and the Care and Treatment of Epileptics, president, Mr. W. C. Graves, Chicago; secretary-treasurer, Dr. J. F. Munson, Sonyea, N. Y.

The Liga Internationale contra l'Epilepsie, president, Dr. David F. Weeks, Skillman, N. J.; secretary, Dr. L. J. J. *Muskens*, 286 Overtoom, Amsterdam. Official organ of the American National Association and of the Liga Internationale is *Epilepsia*, a quarterly periodical.

Among the publications on the subject of epilepsy are the following:

Annual Transactions of the National Association for the Study of Epilepsy and the Care and Treatment of Epileptics. *Information may be had from the secretary, Dr. J. F. Munson*, Sonyea, N. Y.

Binswanger: Die Epilepsie, new edition *just out*; in German only.

Turner: Idiopathic Epilepsy, Macmillan, New York.

Spratling: Epilepsy and Its Treatment, W. B. Saunders Company, Philadelphia.

Letchworth: The Care of Epileptics at Home and Abroad, G. P. Putnam's Sons, New York, 1899.

Weeks: The Inheritance of Epilepsy, Transactions First Eugenic Congress, 1912, London. *Reprint may be obtained from* Dr David F. Weeks, Skillman, N. J.

Transactions National Conference of Charities and Corrections. *May be obtained from the secretary*, Alex. Johnson, Angola, *Ind.*

Transactions various state conferences on charities and corrections, especially New York and Illinois. Pamphlet. How the Uncared-For Epileptic Fares in Illinois, published by the Committee of Fifty, Mr. Sherman C. Kingsley, 315 Plymouth Court, Chicago, Ill.

Report of Craig Colony for Epileptics, Sonyea, N. Y., for 1912.

Among other articles on the subject are the following:

Accidental Death in Epilepsy, editorial, THE JOURNAL, July 23, 1910, p. 317.

Epilepsy, Therapeutics Department, THE JOURNAL, Oct. 8, 1910, p 1287.

Munson, J. F.: Death in Epilepsy, *Med. Rec.*, New York, Jan. 8, 1910.

Shanahan, W. T.: Pulmonary Edema, *New York Med. Jour.*, Jan. 11, 1908.

Davenport and Weeks: First Study of Inheritance in Epilepsy, *Jour. Nerv. and Ment. Dis.*, xxxviii, 641.

Drewry, W. F.: State Pensions for Epileptics, *Charities Review*, January, 1896, p. 117.

Weeks, D. F.: What New Jersey Is Doing for the Epileptic, *Arch. Pediat.*, April, 1912.

Pfannebecker, W.: Molding Public Opinion Regarding the State Care of Epileptics, *Jour. Iowa State Med. Soc.*, October, 1912.

McWhorter, G. T.: State Care of Epileptics, *South. Med. Jour.*, December, 1911.

O'Reilly, A.: Care of Epileptics in Epileptic Institutions in the United States, *Jour. Mississippi State Med. Assn.*, April, 1912.

Healy, W.: Epilepsy and Crime: The Cost. A Report from the Juvenile Psychopathic Institute, Chicago. *Illinois Med. Jour.*, February, 1913, p. 193.

CHEMICAL REACTIONS OF CITRUS JUICES IN THE BODY

To the Editor:—In THE JOURNAL, Nov. 23, 1912, p. 1888, in your article on the treatment of endocarditis (Disturbances of the Heart, Therapeutics Department), you say: "And it should be remembered that lemon and orange burn to alkalies in the system and do not act as acids." Please explain the chemical reactions that occur.

R. H. BURNEY, M.D., Fowler, Colo.

ANSWER.—The juices of lemons and oranges, contain a considerable amount of free citric acid, which when burned in the body produces carbon dioxid and water. The carbon dioxid is promptly eliminated and hence produces little or no effect on the alkalinity of the blood or tissues. But these juices also contain a considerable amount of salts, chiefly citrate of potassium. The citrate when burned produces potassium carbonate, which is alkaline in reaction. Consequently the final result of the consumption of lemons or oranges is an increase in alkalinity.

ARTICLES ON SODIUM FLUORID

To the Editor:—Kindly refer me to articles pertaining to the action of sodium fluorid on man and animals.

B. L. SCHUSTER, M.D., Brookline, Mass.

ANSWER.—The following articles deal with this subject:

Loevenhart and Peirce: The Inhibiting Active Effect of Sodium Fluorid on the Action of Lipase, *Jour. Biol. Chem.*, 1907, ii, 397.

Amberg, S., and Loevenhart, A. S.: Further Observations on the Inhibiting Effect of Fluorids on the Action of Lipase, Together with a Method of the Detection of Fluorids in Food Products. *Jour. Biol. Chem.*, 1908, iv, 149.

Brandl and Tappeiner: Ueber die Ablagerung der Fluorverbindungen im Organismus nach Fütterung mit Fluornatrium, *Ztschr. f. Biol.*, 1891-1892, N. F., x, 518.

Waddell, L. A.: The Physiologic and Medicinal Action of Hydrofluoric Acid and the Fluorids, *Indian Med. Gaz.*, 1883, xviii, 97, 126, 183, 217, 248, 284, 312, 337.

METHOD OF SEPARATING BLOOD-SERUM

To the Editor:—1. Can you give me a method of separating the serum from fresh blood?

2. What percentage of moderately clear serum can be obtained from normal blood?

A. L. M., M.D.

ANSWER.—1. Blood-serum for bacteriologic purposes is obtained by allowing blood which has been drawn as aseptically as possible to stand in sterilized jars in a cool place for twelve hours. The clot having separated by this time, the clear serum is pipetted off with a sterilized pipet.

2. About 50 per cent.

COMPOSITION OF CHINOSOL

To the Editor:—Will you please inform me as to the ingredients of Chinosol, put out by Parmele Pharmacal Co.?

E. L. MEREDITH, M.D., Yutan, Neb.

ANSWER.—Chinosol is normal oxyquinolin sulphate. It is described in New and Nonofficial Remedies 1913, p. 65.

Book Notices

ARBEITEN AUS DEM PHARMAZEUTISCHEN INSTITUT DER UNIVERSITÄT BERLIN. Herausgegeben von Dr. H. Thoms, Professor und Direktor des Pharmazeutischen Institutes der Universität Berlin. Ninth Volume. Cloth. Pp. 256, with illustrations. Berlin: Urban & Schwarzenberg, 1912.

The ninth volume of the "Arbeiten" has made its appearance under the able editorship and direction of Prof. H. Thoms, corresponding member of the Council on Pharmacy and Chemistry, and well known for his achievements in the pharmaceutical sciences.

The largest part of the book is devoted to reports of investigation of purely scientific interest, the nature of which shows the high scientific standing of the Pharmazeutisches Institut. Among the more practical investigations of interest to the medical and pharmaceutical professions there are such reports as studies on menthol production in Germany and the colonies, chemical studies of adalin, codein and dionin, and the isolation and investigation of the constituents of several plants. Of greater interest to physicians is the paper by Thoms which is a review of the new therapeutic agents which have appeared in the last year, and includes a bibliography of the literature discussing these remedies.

Although the volume contains reports of analyses of proprietary medicines, it is noted with regret that this volume contains a very small number of them. As the reports on proprietary medicines emanating from this institute have been of great aid in protecting the medical profession in Germany from deception and fraud, it is to be hoped that the institute will show greater activity in this direction during the coming year.

HEALTH AND LONGEVITY THROUGH RATIONAL DIET. Practical Hints in Regard to Food and the Usefulness or Harmful Effects of the Various Articles of Diet. By Dr. Arnold Lorand. Cloth. Price, $2.50 net. Pp. 416. Philadelphia: F A. Davis Company, 1912.

The author has had a large experience in the regulation of diet in his practice at Carlsbad, and his work reflects the attitude of one who is accustomed to the instruction of the laity in these matters. One of the striking features is the attention given to what one might call comparative dietetics, as shown by the illustrations drawn from the animal and vegetable kingdoms. Particular attention is given to the function of the mineral constituents of the food, a subject which has to a great extent been neglected or at least underrated in ordinary works on dietetics. It is hard to say in the present state of knowledge whether or not the assertions of the author can be accepted without question; but at any rate, the matter is worth the attention both of physicians and of laymen. Methods of cooking are described and interesting remarks are made as to the size and distribution of the meals.

Several chapters are devoted to the consideration of the ill-effects arising from various special and one-sided diets, such as vegetarianism, insufficient diets, lack of protein, a meat diet, etc. The influence of the ductless glands in the utilization of food, and in nutrition in general receives full recognition. On the whole the book will prove useful to a large class of readers, and it is full of valuable hints from which all can profit. It may be recommended to the layman as well as to the practitioner.

PHYSICAL DIAGNOSIS. By Richard C. Cabot, M.D., Assistant Professor of Medicine in Harvard University. Cloth. Fifth Edition. Price, $3. Pp. 519, with 268 illustrations. New York William Wood & Co., 1912.

The work of Dr. Cabot is the expression of his individuality in that it gives no space to methods with which the author has no personal familiarity. The advance of diagnostic methods has rendered necessary a recasting of the entire book with thorough revision for the fifth edition. New sections are added on the phlebogram and arteriogram, and a more adequate notice is given of the bismuth Roentgen-ray examination of the stomach. Thus improved there is every reason to anticipate a continuation of professional favor to this excellent treatise on an extremely important subject.

Diseases of the Eyes. By C. Devereux Marshall, F.R.C.S., Surgeon to the Royal London (Moorfields) Ophthalmic Hospital. London Medical Publications. Cloth. Price, $3.75. Pp. 303, with 95 illustrations. New York; Oxford University Press, 1912.

This is essentially a book for the student and general practitioner, and is therefore intentionally incomplete. Still one regrets the seeming hurry that has occasioned careless English and the omission of some important matters. The use of cycloplegics and the need of complete correction of astigmatism are not given due weight. No mention is made of the Credé method of prophylaxis in ophthalmia neonatorum. Tuberculosis as an etiologic factor in eye diseases is scarcely emphasized enough. In contrast to these omissions, one is pleased to note the excellent character of the work as a whole, and especially the treatment of the subject of trauma and of uveitis resulting from septic mouth conditions. The theory of color-vision and color-blindness, with tests, is given more space than usual in such works.

Du Strabisme. Recherches étiologiques; pathogénie; mécanisme du traitement. Par Dr. Pierre Lagleyze, Professeur d'Ophtalmologie a l'Université de Buenos-Aires. Paper. Price, 15 francs. Pp. 409, with 43 illustrations. Paris: Jules Rousset, 1, Rue Casimir-Delavigne, 1913.

This monograph is one of the best expositions of this rather complicated subject. The author discusses the various forms of strabismus, the relation of refraction to them and the numerous procedures for operative relief. The last chapter is of great value, and discusses the question whether an operation should be done on one eye only or on both eyes.

Medical Economics

This Department Embodies the Subjects of Postgraduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

PROPOSED TARIFF CHANGES ON MEDICAL AND SURGICAL SUPPLIES

The proposed tariff bill for 1913, in so far as it affects drugs, surgical instruments, etc., shows at least a slight reduction in the rates, as compared with the Payne-Aldrich Law of 1909. The new measure has made no very sweeping reduction on drugs, instruments, hospital utensils and the like as a whole. Certain articles have been subjected to no change whatever; for example, under Schedule A of the new bill a rate of 25 per cent. ad valorem is provided on salol, chloral hydrate, phenolphthalein, urea, terpin hydrate, antipyrin, glycerophosphate of lime, acetylsalicylic acid, guaiacol carbonate and thymol. These drugs were not specifically mentioned in the 1909 tariff measure, but it would seem that nearly all of them could be placed under either Section 1 or Section 21 of Schedule A in the present law. Both of these sections provide a rate of 25 per cent. ad valorem "for any other drugs not specially provided for."

On certain other drugs there is an appreciable reduction; for example, calomel and other mercurial preparations are reduced from 35 per cent. ad valorem to 15 per cent. ad valorem; chloroform from 10 cents a pound to 2 cents a pound; drugs, such as barks and berries, which have been advanced in value by shredding, from 0.25 cent a pound and 10 per cent. ad valorem to 10 per cent. ad valorem; ethers from 8 cents a pound to $1 a pound, or 30 per cent. ad valorem, in accordance with the variety, to not more than 5 cents a pound or 20 per cent. ad valorem on apparently the same classification; iodoform from 75 cents a pound to 15 cents a pound, and strychnin from 15 cents an ounce to the free list.

Again, on other drugs, it would seem that the duty has been raised; for example, certain medicinal preparations containing alcohol were taxed uniformly 55 cents a pound. The new measure changes this to a graduated scale according to the percentage of alcohol, varying from 10 cents a pound and 20 per cent. ad valorem up to 40 cents a pound and 20 per cent. ad valorem, while on other drugs the duty is frankly raised, as on ergot from the free list to 10 cents a pound.

Under Schedule B, microscopes, optical instruments and frames and the like are reduced from 45 per cent. ad valorem to 30 per cent ad valorem; spectacles and eye-glasses, which were graded from 20 cents a dozen and 15 per cent. ad valorem to 50 per cent. ad valorem, are now to be uniformly taxed 35 per cent. ad valorem.

Under Schedule C, scissors, shears and blades, whether finished or unfinished, have been shifted from a sliding scale, varying from 15 cents a dozen and 15 per cent. ad valorem up to 75 cents a dozen and 25 per cent. ad valorem, to a straight ad valorem tax of 30 per cent. Hospital utensils have been reduced from 40 per cent. ad valorem to 25 per cent. ad valorem; surgical instruments in general, whether finished or unfinished, so long as they were sufficiently advanced to be definitely classed at all, have been admitted at the uniform rate of 45 per cent. ad valorem. They are now to be admitted at 25 per cent. ad valorem. Other articles will be classed with the articles they most nearly resemble which are specially mentioned; therefore they may or may not be reduced, depending on whether the articles with which they are classed are reduced or not.

Finally, besides strychnin, all the antitoxins and serums, as well as vaccine virus, have been put on the free list.

THE MOVEMENT FOR A NATIONAL DEPARTMENT OF HEALTH

The campaign for the adoption of what is popularly known as the Owen bill is only one chapter in the history of a campaign, covering over forty years, for a national health organization. The first mention of such an organization in the proceedings of the American Medical Association appears in 1871; during the annual session Dr. George Houston, secretary of the California State Medical Society, presented a preamble and resolutions calling attention to the growing importance of hygiene and preventive medicine, and to the recent establishment of state boards of health in Massachusetts and California, at that time the only states to have such organizations. The resolution further recommends that the Association take steps, as soon as six states should establish state departments of health, to bring about the formation of a national health council, for the study of vital statistics and the diffusion of sanitary knowledge. These resolutions being adopted, a committee was appointed, consisting of one member from each state, to secure the organization of state boards of health.

The following year (1872), at the meeting held in Philadelphia, Dr. T. M. Logan of California, chairman of the Committee on a National Health Council, appointed at the previous meeting, presented a report and asked that the committee be continued as a special section on state medicine. By this time Minnesota and Virginia had also established boards of health. The committee devoted most of its efforts to stimulating the creation of state health organizations. After the report of the committee had been adopted, Dr. J. C. Tucker of California introduced a resolution asking Congress to establish a national sanitary bureau, and presented an act drafted for this purpose, which unfortunately does not appear in the records. This resolution was laid on the table.

In 1873, at St. Louis, there is no mention of the subject except that the committee reported progress. Dr. Thomas M. Logan of California presided at the St. Louis meeting, and in his presidential address referred to the development of preventive medicine and stated that a bill had recently been introduced into Congress for the establishment of a national bureau of sanitary science to be located in Washington. He said, "What seems to be required is to effect a union of views as to a method of action so as to bring every state into immediate communication by means of state boards of health with a central office in Washington to be presided over by a commissioner or secretary of public health. . . ." He also strongly urged active methods for the education of the public, recommending "the judicious instruction of the community in the knowledge of the science of life." He added, "Let us throw away all puerile notions about the dignity of our calling, and approach the people through the only channels by which they can be reached—the newspaper and the lecture-room. This is our work for the future, to educate the people."

In 1874 the Association met at Detroit. Nothing appears in the transactions of the Association, but in the minutes of the Section on State Medicine and Public Hygiene, which had developed from the committee, it is stated that a resolution was introduced by Dr. R. C. Kedzie of Michigan, asking the Association to petition Congress at once to establish a national sanitary bureau. The chairman of the section, Dr. A. N. Bell of New York, argued that local and state health organizations should precede any attempts to secure a national bureau, but Dr. Kedzie's resolution was adopted. The chairman of the section, in his address on the subject, "The Waste of Life," discussed most of the subjects that would now be considered under conservation of vitality, and recommended the speedy organization of boards of health in each state.

In 1875 Dr. Henry I. Bowditch, then chairman of the section, sent to each member a circular letter asking for opinions regarding the proposed "health council for the nation." In his chairman's address he summarizes the replies received and proposes the organization of the "United States Public Health Commission, its object being to gather, from all possible sources, opinion bearing on the life and health of the people, and to devise plans for the better protection of the lives and health of the people in the United States." The replies received indicate a great variety of personal opinions.

In 1878 at Buffalo, the president, Dr. T. G. Richardson, stated in his presidential address that although ten years before there had not been a single state board of health, there were now twenty. In this address is found for the first time the suggestion of a national Department of Health, whose head should be a member of the President's cabinet.

Before the next meeting of the Association, the first national board of health had been organized through the passage of a law in the last hours of the Forty-Fifth Congress. The causes which brought about this organization are given in detail by Dr. John S. Billings of the United States Army, in the transactions of the Association for 1880. He states that the first bill for a national health organization was prepared by Dr. C. C. Cox in 1871, and was introduced into the Senate in the summer of 1872. This bill provided for a national sanitary bureau under the Department of the Interior. The bill was not pressed and never came to a vote. In 1873 the yellow fever epidemic in the South resulted in the introduction of a bill providing for national quarantine service, as the result of which a number of conferences and hearings were held. Dr. Billings states that the plan proposed by Dr. Bowditch in 1875 was derived mainly from that sketched years before by Jeremy Bentham. In 1878, owing to yellow fever epidemics in the South, the quarantine question again came to the front and a law was enacted, making it the duty of consular officers to report regarding contagious diseases in any port, of the departure of vessels from infected ports to any port in the United States. In 1878 came the great yellow fever epidemic followed by the formation of a commission at the expense of Mrs. Elizabeth Thompson, to investigate the cause of the epidemic. When Congress met in December of 1878, special committees on epidemic diseases were formed in both the House and the Senate, and a special congressional commission was created to investigate the causes of the epidemic. Senator L. Q. C. Lamar of Mississippi introduced a bill creating a Department of Public Health, abolishing the office of Surgeon-General of the Marine-Hospital Service, and providing for a Director-General of Health to be in charge of the department and of the Marine-Hospital Service and of all quarantine measures. This bill was not supported by sanitarians or medical men. In January, 1879, the Congressional Yellow Fever Commission presented its report, recommending national quarantine and a central health authority at Washington. Senator Harris of Tennessee, chairman of the Senate Committee on Epidemics, introduced a bill creating a bureau of public health, whose duties, however, were limited to quarantine. The bill also created the office of Director-General of Health, who should have charge of the Marine-Hospital Service. Under him was to be a board of health consisting of seven members appointed by the President, and of the Surgeon-General of the Army and Navy, ex-officio. This bill passed the Senate but was defeated in the House.

In the meantime, Mr. McGowan of Michigan introduced a bill just at the close of the session to establish a national board of health, which passed both the House and Senate in the last hours of the Forty-Fifth Congress and became a law, March 3, 1879. It created a national board of health, consisting of seven members appointed by the President, one medical officer from the Army, the Navy and the Marine-Hospital Service, and one officer from the Department of Justice. Its duties were to obtain information and advise the various governmental departments. It was also directed to report to Congress a plan for a national health organization. A board was organized, April 2, 1879, by electing Dr. James L. Cabell of Virginia, president, and Dr. James J. Turner, U. S. N., secretary.

For some strange reason there is no mention of the establishment of this board anywhere in the minutes of the session of 1879. It made various recommendations and started some investigations during its brief existence, but Congress failed to make any appropriation for its maintenance, and in 1883 it went out of existence.

Little attention was given to the subject until in 1886, when a bill was introduced into the House of Representatives by Dr. Robert T. Davis, a member of Congress from Massachusetts. This bill provided for the establishment in the Department of the Interior of a bureau of public health under the management of the Commissioner of Health, who was authorized to organize a permanent national board of health, and to relieve the Marine-Hospital Service from further duties in this direction. It provided for the appointment by the President of a commissioner. It also provided that the Department of State should obtain information regarding sanitary conditions in foreign countries, and that the bureau of health should obtain through all accessible sources weekly reports of sanitary conditions in the United States. The bureau was authorized to make investigations into the nature, origin and prevention of contagious diseases. Commenting on this bill editorially, THE JOURNAL for April 10, 1886, said: "The introduction of this bill is the first move we have seen relating to health and sanitary relations by the general government, which is in the right direction and founded on correct principles. The propositions hitherto made to establish national boards of health consisting of several members representing different sections of the country and somewhat different interests, have two radical defects; first, they are too cumbersome, and second, they inevitably contain more or less elements of discord." No further information appears in THE JOURNAL regarding the final disposition of this bill. Evidently there was considerable discussion in Congress on this subject, as Dr. John H. Rauch, in his address as chairman of the Section on State Medicine, delivered at the St. Louis session of the Association in May, of 1886, states that three different bills were introduced during the pending session of Congress for the creation of a national health service. He adds, however, "that there is little hope of any of them receiving favorable consideration."

In 1891 Dr. W. L. Schenck of Topeka, in his address on state medicine at the Washington session of the Association, discussed the necessity of national health organization, and suggested a Department of Public Health, in which should be gathered the Marine-Hospital Service, the Bureau of Education, the divisions of Vital Statistics, Animal Diseases and the Weather Bureau, and any other bureaus or divisions pertaining to the health and development of the people. He states that a bill for this purpose had been introduced into Congress during the preceding year. This is the first suggestion of the creation of a health department by the transfer and rearrangement of existing bureaus. At this session, the Committee on a Secretary of Public Health presented a report recommending the appointment of a committee of five to prepare a memorial to Congress on this subject.

In 1892 Dr. Henry O. Marcy, in his presidential address, reviewed the history of the movement. The committee in its report stated that a petition to Congress had been prepared and printed in pamphlet form and also in The Journal. This petition had been presented in the Senate by John Sherman and in the House of Representatives by John A. Caldwell. A bill for a national Department of Health accompanied the petition. The report states that the House Committee on Judiciary was in favor of the bill, and that the chairman of the Senate committee opposed it, because he objected to increasing the appropriations. The bill introduced into the Senate, provided for a national Department of Health in the Treasury Department, to consist of three scientists appointed by the President, one officer each from the Army, Navy and Marine-Hospital Service, and one member from the legal department. The committee objected to this bill for a number of reasons which are set forth in its report, the principal one being the objection to having the Secretary of the Treasury exercise supervision of a health department. The bill introduced into the House by Mr. Caldwell provided for a department and a medical secretary of public health. The provisions regarding investigations, etc., were very much like the preceding bill.

In 1893 Dr. Hunter McGuire, in his presidential address, refers to the action of the Association, and states that a bill introduced into Congress for this purpose was "entirely ignored."

In 1896 the Committee on a National Department of Health, of which Dr. Jerome Cochran of Alabama was then chairman, reported at the Atlanta meeting, reviewing the work of the committee since its appointment in 1891. He stated that in 1890 the Marine-Hospital Service had already been invested with some important public health functions, and in 1893 was converted into a national health department with very large and far-reaching powers and abundant means. He says: "It is not called a Department of Public Health, but it is a Department of Public Health in fact." His report continues, "Since 1893, until the effort was abandoned last year, our committee has been engaged in the hopeless and unwise enterprise of endeavoring to induce Congress to establish another Department of Public Health—a very weak and inconsiderable department by the side of a very powerful department." He then proceeds to argue in favor of the gradual improvement of the Marine-Hospital Service, and its development into a national Health Department. He recommends that the committee be authorized to draw up a new bill along such lines, and to invite the cooperation of the Conference on State Boards of Health and of the American Public Health Association in securing the adoption of such a bill. The report with its recommendations was adopted.

In 1897 Dr. U. O. B. Wingate reported as chairman in place of Dr. Jerome Cochran, who had died during the preceding year. As a part of his report, he submitted a lengthy bill providing for a national Department of Public Health, under the control of a commissioner, who should be "a regularly educated physician" and should "hold membership in one or more reputable sanitary or medical associations in the United States." Provision was also made for an assistant commissioner having the same qualifications, and for an advisory council composed of the secretary of each state board of health. This department of health should succeed to the powers and duties of the Marine-Hospital Service. The bill provided lengthy quarantine regulations, authorized the investigation of sewage-disposal, water-supply and the collection of vital statistics. This bill, which later came to be known as the Spooner bill, was very long and detailed in quarantine provisions, but it contained little in the way of specific provisions for organization. Interest in the proposition was stimulated by the yellow fever epidemic of 1897.

In the report of the committee at the annual meeting in 1898, Dr. Wingate states that the bill referred to above had been introduced into the Senate by Senator Spooner of Wisconsin, and into the House by Mr. Otjen. The agitation in favor of this bill and its consideration by Congress were interrupted by the Spanish-American War and nothing definite resulted. The committee reported in 1899 and 1900 but nothing was done.

There was no further agitation on the subject until Feb. 10, 1910, when Robert L. Owen, Senator from Oklahoma, introduced into the United States Senate, S. B. 6049. This bill, the original Owen bill, provided for a Department of Public Health, under the supervision of a Secretary of Public Health, who should be a member of the cabinet. In this department should be assembled all divisions and bureaus belonging to any department, except the Department of War, and the departments of the Navy, affecting the medical, surgical, biologic and sanitary services, including the Public Health and Marine-Hospital Service, the Revenue Cutter Service, the Medical Staff of the Pension Office, Indian Bureau, Department of the Interior, Old Soldiers' Homes, Government Hospitals for the Insane and the Freedmen's Hospital, the bureaus of Entomology, Chemistry and Animal Industry of the Department of Agriculture, the hospitals of the Immigration Bureau of the Department of Commerce and Labor, the Emergency Service of the Government Printing Office, and all other agencies in the United States government for the protection of human or animal life. This bill undertook the organization of a Department of Health by assembling existing parts of the government machinery in a new department, instead of creating a department *de novo*. The Department of Public Health was given jurisdiction over all matters within the control of the federal government relating to human or animal health and life. The establishment of bureaus of biology, chemistry, veterinary service and sanitary engineering were authorized. This bill was referred to the Senate Committee on Public Health and National Quarantine, before which were held during the year following its introduction, a large number of hearings. It was never reported on, and died in committee with the expiration of the Sixty-First Congress.

The second Owen bill (S. B. 1), was introduced by Senator Owen, April 6, 1911. This bill provided for a Department of Health, presided over by a Director of Health and an assistant to be known as the Commissioner of Health, both to be appointed by the President. The commissioner was required to be a skilled sanitarian. The director was to be an executive officer. The Department of Health was to foster and promote all matters pertaining to the conservation of public health, and to collect and disseminate information relating thereto. It was expressly provided that this department should not exercise any function belonging to a state without express invitation from the governor of the state, or enter any premises in any state without the consent of the owner or occupant thereof. These two provisos were to meet the objections of the advocates of state rights and personal liberty. To this department were to be transferred the Public Health and Marine-Hospital Service from the Department of the Treasury, from the Department of Agriculture that part of the Bureau of Chemistry charged with the administration of the Food and Drugs Act, and from the Department of Commerce and Labor the Division of Vital Statistics of the Bureau of the Census. The President was authorized to transfer at any time, either in whole or in part, any bureau or division of the government, engaged in work pertaining to public health, except the Medical Department of the Army and the Bureau of Medicine and Surgery of the Navy. Provision was made for the organization of the following bureaus: Sanitary Research, Child Hygiene, Vital Statistics and Publications, Foods and Drugs, Quarantine, Sanitary Engineering, Government Hospitals and Personnel and Accounts. An advisory board of seven was provided for, and provisions were made for cooperation with the health authorities in the various states.

This bill was referred to the Senate Committee on Public Health and National Quarantine, where it remained for almost a year, at the end of which time it was reported on favorably, but with amendments that practically amounted to a new bill. As reported out of the committee, April 1[illegible], 1912, the bill provided for an independent establishment known as the United States Public Health Service, with a Director of Health as the head. Under the director were to be three assistants known as commissioners of health, two of whom were to be skilled sanitarians and one a skilled statistician. The present heads of the Public Health Service, the Bureau of Chemistry and the Division of Vital Statistics were constituted the three commissioners. The duties of this health service were practically the same as those in the previous bill, with the proviso that the health service should have no power to regulate the practice of medicine or to interfere with the right of any citizen to employ the practitioner of his choice, and that all appointments should be made without discrimination in favor of, or against any school of medicine or healing. These restrictions were inserted in order to meet the objections of those who thought that the liberty of the individual in selecting his medical attendant would be interfered with. The bureaus created were slightly different from those in the preceding bill, being bureaus of the Public Health Service, Foods and Drugs, Vital Statistics, Child Conservation, Sanitary Engineering, Personnel and Accounts, and Publications.

Following the report of the committee, April 13, 1912, the bill was placed on the Senate calendar as Calendar No. 561, where it remained until Feb. 3, 1913, when it was called up on motion of Senator Owen that the Senate proceed to the consideration of this bill. On this motion the vote was a tie, 33 to 33. The bill was, accordingly, not taken up, and died at the expiration of the Sixty-Second Congress.

April 7, 1913, in the opening sessions of the Sixty-Third Congress, Senator Owen introduced as Senate Bill 1 a third bill, the text of which appeared in full in The Journal last week.[1] This bill was referred to the Senate Committee on Public Health and National Quarantine.

Since 1878 the American Medical Association has consistently favored the creation of a national health organization independent of all other departments of the government and organized on a scale proportionate to the importance of the subject. The advocates of this measure have been divided into two parties; namely, those who favored the creation of a national department of health *de novo*, and those who favored the gradual development of the Marine-Hospital Service and its expansion into a real national health department.

Without going minutely into the history of the Marine-Hospital Service, it is worth noting that it was organized in 1789, very early in the history of the government, for the purpose of caring for sailors of the merchant marine, and as it was supported originally by the tonnage tax paid by vessels registered under the United States commerce laws, and as this tax was a form of revenue, the Marine-Hospital Bureau was created a part of the Treasury Department. For nearly one hundred years its work was limited to the care of sailors. Contrary to the general impression, it has never had any connection with either the Army or the Navy.

In 1871 Congress placed the supervision of national quarantine in the hands of the Service. In 1899 a law was passed practically reorganizing the Service, and changing the name from the United States Marine-Hospital Service to the United States Public Health and Marine-Hospital Service. At the same time the hygienic laboratories were established, and last year (1912) the passage of the personnel bill placed the pay and rank of Marine-Hospital surgeons on the same basis as those of medical officers in the Army and Navy, and again changed the name from the United States Public Health and Marine-Hospital Service, to the United States Public Health Service. During all this time the functions of this bureau have been steadily widening. The question of the advisability of expanding this service into a real department of public health is still worthy of careful consideration; in fact, the last draft of Senator Owen's bill practically recognizes this fact by transferring this service intact to the new public health organization and making it a basis for further expansion.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Arkansas: Regular, Little Rock, May 13-14. Sec., Dr. F. T. Murphy, Brinkley; Eclectic, Little Rock, May 13. Sec., Dr. C. E. Laws, Fort Smith.

Florida: Jacksonville, May 12-13. Sec., Dr. J. D. Fernandez.

Georgia: Regular, State Capitol, Atlanta, May 8-10. Sec., Dr. C. T. Nolan, Marietta; Homeopathic, Atlanta, May 8. Sec., Dr. R. E. Hinman, 106½ Whitehall Street.

Louisiana: Homeopathic, 702 Macheca Bldg., New Orleans, May 5. Sec., Dr. Edward Harper.

Massachusetts: State House, Boston. May 13-15. Sec., Dr. Walter P. Bowers, Room 159, State House.

Michigan: Y. M. C. A. Bldg., Detroit, May 22-24. Sec., Dr. B. D. Harison, 504 Washington Arcade.

Nebraska: Lincoln, May 28-29. Sec., Dr. C. P. Fall, Beatrice.

Nevada: Carson City, May 5. Sec., Dr. S. L. Lee.

Oregon January Report

Dr. E. B. McDaniel, secretary of the Oregon State Board of Medical Examiners, reports the written examination held at Portland, Jan. 7-9, 1913. The number of subjects examined in was 15; percentage required to pass, 75. The total number of candidates examined was 92, of whom 68 passed including 11 nongraduates and 6 osteopaths, and 24 failed including 4 nongraduates and 2 osteopaths. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Colorado	(1911) 80.6; (1912)	76.6
Georgetown University	(1912)	86.6
Bennett Medical College	(1901)	*71.1
Northwestern University Medical School	(1911)	82.2, 84.5, 85; (1912) 84.4, 86.2.
College of Physicians and Surgeons, Chicago	(1904)	84.1
Hering Medical College	(1912)	79.7
Rush Medical College	(1893) 84.1; (1912)	78.4
Chicago Homeopathic Med. College	(1894) 72.5*; (1895)	88.2
Kansas Medical College	(1896)	*71.5
Hospital College of Medicine, Louisville	(1907)	76.4
Medical School of Maine	(1912)	84
Johns Hopkins University	(1911)	85.4
University of Maryland	(1894)	87.7
Harvard Medical School,	(1900) 86.4; (1910) 80.1; (1911)	78.9
Tufts College Medical School	(1907)	75.9
Detroit College of Medicine	(1904)	77.8
University of Michigan, Dept. of Med. and Surg.,	(1887)	87.3; (1908) 80.2.
Barnes Medical College	(1904)	80.1
Creighton Medical College	(1907) 76.8; (1912)	75
Lincoln Medical College	(1909)	76.6
Columbia University, College of Phys. and Surg.	(1895)	80
Bellevue Hospital Medical College	(1889)	76.1
Ohio Medical University	(1906)	75.2
Eclectic Medical Institute, Cincinnati	(1903)	*73.2
Cleveland-Pulte Medical College	(1911)	75.6
Willamette University	(1908) 75; (1912)	76.2
University of Oregon,	(1910) 78.1; (1911) 75; (1912)	75, 77.6, 79.2, 80.9.
University of Pennsylvania,	(1897) 80.7; (1898) 83.9; (1910)	79.3.
Jefferson Medical College	(1908) 77.6; (1912)	78.6
University of Virginia	(1901)	79.2
Manitoba Medical College	(1886)	*69.2
Nongraduates,		72.3, 77.1, 77.7, 77.8, 81.1, 81.7, 82.7, 83.5, 85.1, 86.4, 88.9.

FAILED

College	Year Grad.	Per Cent.
College of Physicians and Surgeons, San Francisco	(1903)	72.7
Hahnemann Medical College of Chicago	(1904)	71.2
Keokuk Medical College, Coll. of Phys. and Surg.,	(1908)	72.4
Kentucky School of Medicine	(1903) 73.7; (1908)	64.7
University of Louisville	(1908)	67.3
Barnes Medical College	(1908)	68.1
Kansas City Homeopathic College	(1891)	68.1
New York University Medical College	(1871)	48.8
University of Oregon	(1910) 70.5; (1912)	71
Willamette University	(1905) 56.8; (1912)	68.2, 72.2, 76.5
Jefferson Medical College	(1912)	73.1
University of the South	(1908)	74
University of Texas	(1897)	82.6
Non-graduates		69.8, 71.3, 71.5, 72

* Allowance for years of practice.

Iowa March Report

Dr. Guilford H. Sumner, secretary of the Iowa State Board of Medical Examiners, reports the written examination held at Des Moines, March 4-6, 1913. The number of subjects examined in was 8; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 14, of whom 12 passed and 2 failed. Five candidates were licensed through reciprocity. The following colleges were represented:

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[1] The New Owen Bill, Medical Economics Department, The Journal A. M. A., April 26, 1913, p. 1320.

College	Year Grad.	Per Cent.
PASSED		
College of Physicians and Surgeons, Chicago	(1911)	92.1
Northwestern University Medical School	(1912)	86.7
Hahnemann Medical College and Hospital, Chicago	(1906) (1911)	76; 81.7, 83.
Rush Medical College	(1908) 94; (1910) 95.5; (1911)	92.2
State University of Iowa, Homeopathic College	(1913)	91
State University of Iowa, College of Medicine	(1913)	92.6
Barnes Medical College	(1904)	79.6
University of Pennsylvania	(1911)	91.5
FAILED		
National Medical University	(1902)	70.5
St. Louis College of Physicians and Surgeons	(1910)	69.1

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
University of Colorado	(1911)	Colorado
Bennett Medical College, Chicago	(1912)	Nebraska
Chicago College of Medicine and Surgery	(1912)	Missouri
University Medical College, Kansas City	(1902)	Missouri
Creighton Medical College	(1910)	Nebraska

Wyoming March Report

Dr. J. B. Tyrrell, secretary of the Wyoming State Board of Medical Examiners, reports the written examination held at Cheyenne, March 5-7, 1913. The total number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 4, all of whom passed. Two candidates were licensed through reciprocity. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Medical College of Indiana	(1894)	84.3
University of Louisville	(1910)	82
Detroit College of Medicine	(1892)	75
McGill University, Quebec	(1903)	96.9

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
College of Physicians and Surgeons, San Francisco	(1907)	Utah
University of Pennsylvania	(1908)	Penn.

Medicolegal

Boards of Health Not Abolished

(Istran vs. Naar (N. J.), 85 Atl. R. 1012)

The Supreme Court of New Jersey holds that the act of 1911, known as the "Walsh Act," relating to regulating and providing for the government of cities, etc., does not have the effect of abolishing boards of health organized under the general act of 1887 in municipalities which adopt it as a governmental scheme. The court says that the question arose directly as bearing on the legality of two convictions for violations of the local sanitary code in suits which were brought in the name of "the inhabitants of the city of Trenton." That was evidently done on the theory that the board of health itself no longer existed as such, and was wrong.

Prior to the adoption by the city of Trenton of the act of 1911, suits to recover penalties for such violations must have been brought in the name of the local board of health. By the Walsh Act the departments of public affairs, revenue and finance, public safety, streets and public improvements, and parks and public property are created. There is no department of public health, and no mention of any board of health. The act provides that the board of commissioners shall assign the powers and duties of the several departments; also that it shall create such subordinate boards and appoint such officers as it may deem necessary for the proper conduct of the affairs of the city. By section 8 all cities adopting the act are empowered to enact and enforce, by fine or imprisonment, ordinances necessary for the protection of life, health, and property; to declare and prevent, and summarily to abate, nuisances, etc. Section 17 makes an exception as to formalities of enactment in favor of ordinances "for the immediate preservation of the public peace, health, or safety." The word "health" does not occur elsewhere in the act.

It can hardly be denied that the legislature intended to confer on cities adopting the act of 1911 some power to legislate in matters of public health. But, granting that the legislature, by enactment of the statute of 1911, wished to create a scheme for the centralization of responsibility and authority, the court should pause before construing the act as meaning, in the absence of plain words to that effect, that, after its adoption, there was to be no such thing as a board of health in the city of Trenton, and that the state-wide system of health boards, which had existed for nearly a quarter of a century, was to be abrogated in cities adopting the act of 1911. The very catalogue of the departments would indicate that no interference with the health act was intended, for the functions of a board of health have no special relevancy to any one of those departments, though they are in some aspects germane to all of them.

The secondary control of the board of commissioners, however, over the public health, is ample. By the health act itself the members of the local board of health are "appointed in such manner and hold office for such terms as the governing body may by ordinance provide." By the Walsh Act the terms of all officers expire upon the organization of the board of commissioners. This left that board in absolute control of the situation, with power to fill the vacancies and to fix the terms of office of members of the board of health, subject to certain limitations. What the board of commissioners of the city of Trenton seem to have done by its resolution declaring that the "services" of the members of the board of health were "discontinued and ended, to the end that the powers and duties pertaining to the public health now vested in this board (i. e., the board of commissioners), by reason of the operation of chapter 221 of the laws of 1911, may be exercised and discharged by this body," was to appoint its members as a board of health; at least, the court deems this to have been the effect of their action. But, when so appointed and so acting, they were the board of health of Trenton, and not the board of commissioners, and as such board of health should have appeared as plaintiff in the suits before mentioned.

Rights Antedating Birth

(Nugent vs. Brooklyn Heights R. R. Co., 139 N. Y. Supp. 367)

The Second Appellate Division of the Supreme Court of New York affirms a judgment dismissing the complaint of the plaintiff, who, by his guardian ad litem, sued to recover damages for injuries received thirty-six days before his birth, through the negligent starting of the defendant's car, while his mother was alighting therefrom, the statement in the complaint being, in effect, that the injuries to the mother affected the plaintiff's body, resulting in deformity at birth and less than normal nervous and physical condition, and otherwise injured him.

The court says that the question thus presented for the first time in New York state was worthy of consideration, inasmuch as, if this action on proper pleading could not be maintained, there was no remedy unless in an action by the mother for damages to her by reason of injuries to her son, and that would be inadequate. The fact that the child was deformed, and would suffer thereby, would cause the mother mental pain, and, even if she could recover from that, the mental pain the child would suffer and the mere fact of deformity with its consequent diminution of the value of capacities and faculties could not be included in her recovery. The father, in case he could recover at all, could do so only so far as the injury enlarged the expense of the child's maintenance and entailed loss of service. So, however the subject be viewed, there was a residuum of injury for which compensation could not be had save at the suit of the child, and it is a question of grave import whether one may wrongfully deform or otherwise injure an unborn child without making amends to him after birth.

The identification of an unborn child with the mother, and the merger of its individuality in her own, would seem justly to be limited by her ability to recover full compensation for the injury done both to her and to him. In this case certain of his injuries could be segregated, but she could not represent him for the purposes of recovery for them.

If one should assault the mother, whereby violence would be transmitted injuriously to an unborn child, there seems to be no reason to deny him an action after his birth for his injuries. It would be no answer to the trespasser that the child was concealed in the mother's womb. The wrongful act initiated by the assailant would reach the child, as it might result in tortious contact with any third person, although that was not within the purpose of the actor.

An unborn child has, conditioned on its birth, usual rights of property, and the remedies that pertain to them for actionable injuries inflicted before his birth. And yet shall the incidents be valued in legal cognizance and the owner not? But when in legal apprehension for the purposes of property rights does the entity begin? And what are its capacities? It is sufficient for present purposes to state that it begins before birth, and that it has all the capacities of born persons to receive property, and after birth to enjoy it, and redress prenatal injuries to it. It is in being for the purpose of measuring the valid limitation of estates. An estate may be given to it or to another person for its life, and a guardian may be appointed for it. The death of its father by the wrongful act of another by culpable negligence may injure it so as to permit recovery therefor after birth. Is not the right to be born with normal faculties and capacities for its benefit? If so, he who takes it away deprives the child of the highest good.

It is to the conclusion that an unborn child is not in existence so as to be entitled to the protection of his person as well as his property that the court dissents. It is not helpful to characterize its existence as fictitious as to property rights. The rights are accorded to it. The indisputable fact is that one is answerable to the criminal law for killing an unborn child who to that end is regarded as in being, and the further fact is that the unborn child, so far as the property interests are concerned, is regarded as an entity, a human being with the remedies usually accorded to an owner. But the argument then proceeds that one must respect the rights of ownership, and, so far as a civil remedy is concerned, disregard the safety of the owner. In such argument there is not true sense of proportion in the protection of rights. The greater is denied; the one lesser and dependent on the very existence of a person in being and entitled to protection is respected.

Justice should not be turned aside and wrongs go without remedies because of apprehension of what may happen in jurisprudence if it be decided that an unborn child has some rights of the person. But here is reached the critical stage of the inquiry. This was an action for negligence, for violation of the defendant's duty as a carrier, and the defendant could not be judged as a trespasser. What duty did the defendant as a carrier owe the unborn child? The child in its distinct entity was not a passenger, and the company owed it as a separate person no duty in the matter of safe carriage. It is not the duty of a carrier to scrutinize its passengers for the detection of unborn children, to the end that they, although latent, may be regarded as passengers. It undertakes to carry as passengers the born, and not the unborn. It carries by compulsion those visibly offering themselves. So the mother presents herself and her living children, and the carrier is bound by the law of the realm to receive and to carry them. Its duty begins with receiving and ends with discharging them, and due care is required. The plaintiff stood in no such relation to the carrier as to earn such obligation on its part, and liability to respond for injury for the negligent carriage and discharge of the mother was coincident with the limits of its duty to her. The obligation arises from implied convention with the state that the carrier shall transport persons with due care, and the remedy is given to the one injured by the breach. The obligation is the same whether the action is in form based on breach of contract or of duty to carry.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, MINNEAPOLIS, JUNE 17-20

American Academy of Medicine, Minneapolis, June 13-15.
Amer. Assn. of Genito-Urinary Surgeons, Washington, May 6-7.
Am. Assn. of Pathologists and Bacteriologists, Washington, May 6-8.
American Climatological Association, Washington, May 6-7.
American Dermatological Association, Washington, May 6-8.
American Gastro-Enterological Association, Washington, May 5-6.
American Gynecological Society, Washington, May 6-8.
American Laryngological Association, Washington, May 5-7.
American Laryn., Rhin. and Otol. Society, Washington, May 8-10.
Amer. Medico-Psychological Assn., Niagara Falls, Can., June 10-13.
American Neurological Association, Washington, May 5-7.
American Ophthalmological Society, Washington, May 6-7.
American Orthopedic Association, Washington, May 6-8.
American Otological Society, Washington, May 6-7.
American Pediatric Society, Washington, May 5-7.
American Society of Tropical Medicine, Washington, May 6-8.
American Surgical Association, Washington, May 6-8.
American Therapeutic Society, Washington, May 5-6.
Arizona Medical Association, Globe, May 20.
Arkansas Medical Society, Little Rock, May 20-23.
Association of American Physicians, Washington, May 6-7.
Conference of State Boards of N. Amer., St. Paul, June 13.
Congress Am. Phys. and Surg. of N. America, Washington, May 6-7.
Connecticut State Medical Society, Hartford, May 21-22.
Florida Medical Association, Miami, May 13-15.
Illinois State Medical Society, Peoria, May 20-22.
Iowa State Medical Society, Des Moines, May 7-9
Kansas Medical Society, Topeka, May 7-8.
Massachusetts Medical Society, Boston, June 10-11.
Missouri State Medical Association, St. Louis, May 13-15.
Montana State Medical Association, Great Falls, May 14.
Nat. Assn. for Study and Prev. of Tuberculosis, Washington, May 8-9.
Nebraska State Medical Association, Omaha, May 13-15.
New Hampshire Medical Society, Concord, May 13.
New Jersey Medical Society, Spring Lake, June 10-12.
North Dakota State Medical Association, Minot, May 7-8.
Oklahoma State Medical Association, Enid, May 13-15.
Rhode Island Medical Society, Providence, June 5.
South Dakota State Medical Association, Vermilion, May 27-29.
Texas State Medical Association, San Antonio, May 6-8.
West Virginia State Medical Association, Charleston, May 21-23.

MEDICAL ASSOCIATION OF THE STATE OF ALABAMA

Annual meeting held at Mobile, April 15-17, 1913

The President, DR. HARRY T. INGE, Mobile, in the Chair

Officers Elected

The following officers were elected for the ensuing year: president, Dr. S. R. Hill, Montgomery; vice-president, Dr. F. A. Webb, Calvert; secretary, Dr. James N. Baker, Montgomery; treasurer, Dr. Henry G. Perry, Montgomery.

Montgomery was selected as the place for holding the next annual meeting.

Fevers of Obscure Origin in Children

DR. LOUIS E. BROUGHTON, Andalusia: Nervous reaction plays an important rôle in the regulation of the temperature in children. Nervous irritability varies in different children. A mild constipation may elevate the temperature in one child, while it will remain undisturbed in others with very severe constipation. Elevated temperatures also vary in length, being of short duration in some and long in others, with seemingly the same prime cause, namely, constipation. Nervous excitement, sufficient to cause convulsions, is not necessary for the rise of temperature, as the highest temperature may be reached from the slightest provocation. Fever may be due to reflex acts, but repeated attacks of obscure fevers are evidently due to the impregnation of the organism with soluble substances. The principal soluble substance is bile, accumulated in the gall-bladder and ducts, the irritated or chronically inflamed gall-bladder being probably the cause of retention. While many insist that these fevers are the result of intestinal toxemias and constipation, these conditions are not relieved without a thorough purgation, showing that the accumulation of foodstuffs is not the only cause of the toxemia; the real cause is the diminished amount or total absence of bile in the intestinal tract. Heroic treatment is necessary to prevent the recurrence of the attacks; while mild treatment will reduce the temperature and relieve the attack, it does not relieve permanently. Calomel, properly administered, seems to be the sine qua non. Children bear calomel well; when it is followed by salines and laxatives there is no danger of ptyalism.

The Drugging Habit of the Busy Practitioner

Dr. Benjamin Britt Simms, Talladega: Many of us to-day cherish vicious delusions regarding the treatment of diseases, but let us adopt scientific and modern methods of giving medicine for the cure of diseases. From 50 to 75 per cent. of all patients require no medicine at all. It many we may be required to give a well-selected harmless placebo. I condemn the habit of giving indiscriminately patent and proprietary remedies.

DISCUSSION

Dr. W. W. Harper, Selma: The more we know of pathology and etiology, the less medicine we give. We should learn to use a few remedies well, and not a whole lot of proprietaries that are carried around and given to the doctors free, many of which are absolutely worthless.

Trifacial Neuralgia

Dr. Thomas C. McClellan, Cochrane: A negro, aged 84, was having fifty or more severe paroxysms a day. The middle branch of the nerve was affected. This condition persisted for several years. After the superficial injection of 15 mimims of chloroform on alternate days for two weeks, he was entirely relieved. The patient died about one year afterward from other causes, but had no more paroxysms. Another patient was given ten superficial injections of chloroform with relief for two years. Since then, I have had two failures with superficial injections of chloroform. In the next case I intend to follow Patrick's or Levy-Baudouin's method and directions.

DISCUSSION

Dr. E. P. Webb, Laurel Hill, Fla.: At what intervals would you use these injections?

Dr. McClellan: The injections of chloroform were given every other day. The patient is given two or three injections if more than one branch is involved at the same sitting, but most injections are given every week or ten days.

Post-Partum Hemorrhage and Its Treatment

Dr. Otis W. Little, Pennington: The fluidextract of ergot is usually given after the third stage of labor, but it may be given at the second stage of labor when there is active hemorrhage. The hypodermic administration of preparations of ergot is more valuable. The German obstetricians have shown that the administration of pituitary extract is without doubt the most valuable agent we possess for the control of uterine hemorrhage. The uterus goes into marked tonic contraction at once.

DISCUSSION

Dr. Paul Rigney, Courtland: I would like to call attention to hyperthyroidism as a causative factor of post-partum hemorrhage. I have attended the same patient on three different occasions, and for identically the same condition each time. It became active for a short period each time and gave a great deal of trouble.

Dr. William Henry Sledge, Mobile: In thirty years I have found nothing equal to saturating a piece of cloth with vinegar, squeezing it all out, and passing the gauze into the uterine cavity. It stops the hemorrhage at once.

Dr. Henry Green, Dothan: As to the use of drugs, I agree with Dr. Sledge that when we have a real post-partum hemorrhage we have no time to drug the patient. The hemorrhage must be stopped at once. I have seen several women bleed to death before we could give them a hypodermic of any thing.

Dr. G. H. Fonde, Mobile: A good big dose of castor oil, for the purpose of overcoming intestinal paralysis and peristalsis, seems in my experience to forestall the tendency to uterine inertia, and make the nervous mechanism under the control of labor easier. When you get the effect of the castor oil, you seem to get a more orderly progress of the uterine contraction.

Dr. William F. Betts, Evergreen: In these cases I have been giving ergot in doses of 10 or 15 drops, and I find that the contractions will pick up and the patients get along nicely, and I have not been troubled with hemorrhage afterward. I would make the suggestion that the ergot be used in small doses, and not in large ones, as there is danger of rupture of the uterus.

Dr. Isaac L. Watkins, Montgomery: It is the habit of a great many doctors to be in too big a hurry to deliver the placenta. In Germany they have a custom in hospitals of requiring the doctor to wait two hours before the placenta is expelled. There are two reasons for this, one of which is that young men learn patience thus and another is that the women are better off. Too early delivery of the placenta is a frequent cause of hemorrhage.

Dr. Thomas Northen, Ashland: I recall one case of post-partum hemorrhage in which the placenta consisted largely of an osseous deposit. It was very brittle. It is my belief that if the proper time is taken, and not too much traction made on the cord, the patient seldom needs any treatment. I have had a few cases of retained placenta, and in removing it with the hand I have found that the uterus responds very quickly to the manipulation. I believe that would be a good plan in cases of uterine inertia. I have tried ergotin in these cases and I have been favorably impressed with it. It is given hypodermically.

Dr. John C. McLeod, Bay Minette: Secondary post-partum hemorrhages which occur several hours after labor have not been mentioned. Most post-partum hemorrhages take place soon after the delivery of the child. I had been practicing medicine for eleven or twelve years before I saw the other kind, but in the last eighteen months I have had two cases of alarming and dangerous post-partum hemorrhages, occurring about four hours after the delivery of the child. A word in regard to the prevention of this occurrence. I believe it is a good idea, in addition to administering a dose of ergot at the time of the birth of the child, to leave a full dose of ergot to be administered two hours after the delivery, after the doctor has left the woman, and the application of a firm abdominal binder. The ergot at that time will take effect before secondary hemorrhage may take place.

Dr. F. M. Inge, Mobile: The regulations of the New York Lying-In Charity Hospital have served a good purpose in my experience. The principal instruction in that institution is that no ergot should be given until the placenta is delivered. The junior in that hospital is instructed in all cases from the time the child is delivered to keep the hand on the uterus without massage, without any treatment of the uterus, but simply watching it. The instructions further state that no placenta should be delivered within twenty minutes after the birth of the child. Gradual massage is then made on the placenta and it is delivered. I saw ninety cases within a month's time in that hospital without a single case of the slightest post-partum hemorrhage.

The Physician in Public Affairs

Dr. Harry T. Inge, Mobile: Fifty per cent. of those who apply for licenses to practice medicine in the State of Alabama fail to pass the examination. This is because there are too many men studying for the profession, or rather it is because the choice of occupation in this country has not the appropriate relation to the ability of the individual. I do not wish to see Websters plowing, but I think we have too many plowmen trying to be Websters, and I am sure our people are making a great mistake in attempting to confer degrees on too many men who are incapable of filling the positions in life which the honor of conferring the highest degree on them leads them to seek. Just so long as the doctor permits himself to be classed as a negative factor in politics, just so long as he takes the position that it is unprofessional for him to devote any real part and attention to political matters, just that long will he be held responsible for the public health without being vested with the control or influence that his responsibility demands. As the matter now stands, every quack and charlatan exercises more influence over the legislation which pertains to health and sanitation than does the learned and retiring physician. I would, therefore, stir you to a real, positive, aggressive interest in public affairs to the end that the medical profession may demand and receive proper recognition, and that its advice may be listened to and accepted in all legislation which pertains to the health and physical welfare of the nation.

Roentgen-Ray Treatment of Epithelioma

Dr. John N. Edmonson, Birmingham: I deem the Roentgen-ray the proper treatment of epithelioma for the following reasons: first, its freedom from pain; second, its lack of scarring; third, its thoroughness in covering the field surrounding the growth, as well as the attack on the growth proper; fourth, and by far the most important, the results obtained as compared with any other method.

Bacillary Dysentery in Infants

Dr. W. W. Harper, Selma: In bacillary dysentery infants dispose of fats poorly and in returning to a sweet milk diet the fat element should be low, say 1 per cent. This can be cautiously increased to 3.5 per cent.; and this percentage should not be exceeded. In infants over 6 months of age the caloric value of the milk can be increased by using cereal diluents. I advise the administration of Flexner's antidysenteric serum in the pure Flexner bacillus infection. The dose is 10 c.c., repeated every six hours, until three or four doses are taken. In some cases it has a marked beneficial effect, while in others I have seen no appreciable results.

DISCUSSION

Dr. Daniel P. McCall, Mobile: While we have the same clinical manifestations in the fermentive type of dysentery yet in the bacillary form there is a deep-seated ulceration over the colon probably extending to the stomach. In the gas bacillus infection we have more of a pseudomembranous condition of the colon, probably affecting the small bowel, or the lower portion of the small bowel, and with a congested adherent membrane behind the original intestinal infection. With the gas bacillus infection we get excoriation of the buttocks. You will get a gaseous stool and also an acid stool, whereas the putrefactive or proteid form gives a non-gaseous, non acid stool. As to the clinical appearance of the patient, you will find that the one who is affected with the putrefactive organisms is much more prostrated with a higher temperature. On the other hand, with the gas bacillus infection you rarely find a temperature which ranges above 101 F.

Dr. J. L. Bowman, Union Springs: These cases have occurred not only in my practice, but also in the practice of several of my colleagues who have called attention to this condition following cases of what seemed to be bacillary dysentery. After all the conditions, so far as the bowels were concerned, had disappeared, and temperature had reached normal, there was a sudden rise of temperature, the child became fretful and remained so anywhere from three days to a week. Digestion seems to have reached nearly the normal again, and when you are called to see the patient some morning, the mother tells you that the child has had trouble in the ear, and otitis media is the cause of the fever. I have seen in the course of ten years about three such cases, and my colleagues have called my attention to about three others. But the moral is that whenever we have a fever in a child that we cannot account for, it might be well to examine the ear for an otitis media.

Dr. W. W. Harper: With reference to handling the napkins, my practice is to take a square of cloth of three or four folds of gauze and place it within the napkin. That receives the stool, and after it has been inspected by the doctor, it is burned. I find in making use of that method it is easier to cleanse the napkins, and it lessens the chance of reinfection. Another caution I insist on in the case of female infants is that they be wiped down instead of up. By wiping up one is liable to force some of the contents of the bowel into the vagina and urethra, and a penalty for this may be later a colon bacillus infection of the ureter and pyelitis, which is often a frequent cause of obscure fever in infants.

Acute Pancreatitis

Dr. T. Brannon Hubbard, Montgomery: I have had two cases of acute prancreatitis. An accurate diagnosis is rarely possible. At the outset perforated gastric or duodenal ulcer, and later acute intestinal obstruction is simulated, while cholecystitis, appendicitis, ruptured ectopic pregnancy or tumor with torsion may be thought of. In perforation of an ulcer previous symptoms are more frequent, and rigidity of recti, instead of the distended but not rigid abdomen of pancreatitis. In acute obstruction collapse is not so frequent, and the pain is not so localized. Dr. M. H. Richardson said that the indications for treatment will be fulfilled when the indications for exploration of acute and grave abdominal symptoms have been fulfilled, and that is when immediate exploration is resorted to. Resort to exploratory laparotomy should not be delayed too long.

Cecal and Pericecal Adhesions

Dr. Joseph D. Winthrop, Mobile: It must not be concluded that all the various forms of adhesions give rise to identical symptoms, or that a common operation is advised for all alike. Etiologically, pathologically, and clinically, they may all be different conditions. I have grouped and considered them together from their anatomic location rather than as considering them a common pathologic entity.

Acute Hematogenous Infection of the Kidney

Dr. James M. Mason, Birmingham: Acute hematogenous infection or septic infarct of the kidney is of comparatively frequent appearance and is often overlooked. Serious injury to or disease of one kidney acts as a predisposing cause. While nephrectomy is demanded in the fulminating type, early diagnosis and operation will permit of decapsulation with incision and drainage of infarcts in certain milder cases, thereby saving some kidneys which would require removal, if treated later. The relation of movable kidney to the development of septic infarct offers an indication of nephropexy worthy of consideration. When explorations in supposedly acute abdominal conditions fail to reveal lesions sufficient to account for the symptoms present, the possibility of septic renal infarct should be borne in mind and the condition of the kidney ascertained before completing the operation.

The Medical Profession and Medical Education

Dr. W. F. R. Phillips, Mobile: The responsibility of the medical profession in respect to medical education is not solely to the profession itself, but is, if anything, more to the community, which gets its estimate, its impressions and its ideals of medicine from the work, activity, and education of the profession in its midst. The survey of our present medical schools shows two facts: first, that we have some of the best schools in the world, schools of the highest grade and conducted on the best educational principles known—schools that are without superiors anywhere; second, that side by side with the best we have the poorest to be found in the universe. Between these extremes we have gradations. In this respect we contrast strongly with European conditions, where but one standard prevails, and that is the best. I hope we are going to see that from now on there shall be but one standard of medical education in this country, and that the best. That before long there shall be no such thing as Class A plus, Class A, Class B, and Class C medical schools, but that they all shall be Class A plus.

Rural Sanitation

Dr. Charles A. Mohr, Mobile: The first step to raise the country to a higher sanitary plane is the education of the people. The teachers are logically the persons who understand the principles and questions involved, and first among these are the legal guardians of the public health, the doctors of the organized profession. Every intelligent man and

The diagnosis was made of a tumor involving the cauda equina, with secondary implication of the cord. At the operation a large tumor was exposed which filled the entire lower part of the spinal canal and extended to and over the conus. Most of the growth was removed within its capsule. No improvement followed, and death took place from exhaustion three months later. At the necropsy, a tumor mass was found involving the cauda and filling the sacral canal. This was a glioma. There were syringomyelic cavities in the lumbar and thoracic regions, chiefly in the anterior portions of the posterior column, with borders of pronounced gliosis. Both the ascending and descending tracts showed advanced degeneration.

Spinal Decompression for Meningomyelitis

Dr. Alfred S. Taylor and Dr. J. W. Stephenson: The patient was a watchman, aged 62, whose previous history was negative with the exception of an attack of pleurisy and pneumonia seven years ago. His family history was unimportant; there was no history of lues and no cough. Present illness began in May, 1912. While at work he was seized with an intense pain in the chest and back, which became very sensitive to the touch. He was taken home, and for several days the pains persisted. He was delirious and was said to have had fever. His condition was diagnosed as rheumatism and was so treated. Two weeks after the onset of his illness an abscess developed on the right chest; this was incised and its contents evacuated. At this time he also suffered from retention of urine, and the testicles became swollen. This, however, soon cleared up.

The pain and fever persisted intermittently, recurring at variable intervals, and early in August, the pain "seemed," according to the patient's statement, to locate in the neck and back of the head, and was followed by a heaviness of the legs and consequent difficulty in walking. The legs gradually became stiff, and in place of the pains he began to have "cramps" which would double him up. In the course of time he also noticed that the upper extremities were growing weak and stiff, and all symptoms gradually progressed until about the middle of August, 1912, the patient became bedridden. He also complained of considerable pain over the region of the bladder, and examination revealed retention, with overflow. There was obstinate constipation.

Nov. 13, 1912, he was unable to walk or stand, having been bedridden for three months, and complained of paroxysmal cramps in the legs. Examination revealed a marked spastic paraplegia, with decided weakness of both upper extremities. He was unable to feed himself, and voluntary movements of lower extremities were impossible. The bladder was distended and there was impaction of the colon. There were no distinct atrophies, though the leg muscles were flabby. There was no tenderness over the vertebrae, but on the right side of the neck, over the lower three cervical vertebrae, there was a distinct infiltration which was tender on pressure and which somewhat limited the movements of the neck. Over the right chest, just underneath the clavicle, there was slight infiltration which was attributed to the old abscess. The knee-jerks were plus plus and equal; the ankle-jerks were plus and equal; there was a double Babinski and Oppenheim. There was double ankle-clonus; the right inexhaustible, the left exhaustible. The abdominal and epigastric reflexes were very sluggish; those of the upper extremities were plus, left greater than right. There was a diminution of the thermal, pain and there were tactile sensations up to the level of the first dorsal. The eyes were negative excepting for a slight irregularity of the pupils. Temperature was 98; pulse, 68; respirations, 18; blood-pressure. 140 mm. A blood examination showed 4,778,000 red blood-cells, with 9,600 leukocytes. A differential count showed neutrophils, 62; large lymphocytes, 15; small lymphocytes, 22; transitionals, 1. The morphology was negative. Wassermann test, urinalysis and von Pirquet test were negative.

The patient was kept under observation for twenty-eight days, during which time there was a gradual progression of symptoms: areas which previously showed a sensory diminution became anesthetic, the abdominal and epigastric reflexes disappeared, and the left exhaustible clonus became inexhaustible. The cramp-like pains became more severe and frequent, requiring the use of morphin. Frequent catheterizations became necessary and the bowels were evacuated only by means of enemas. A roentgenogram showed a circumscribed shadow on the right side of the spinal column opposite the sixth cervical vertebra, which was apparently just in front of the transverse process. A hemilaminectomy was done December 10. Four days after the operation, an examination revealed an exhaustible clonus, and pin-pricks were felt acutely by the patient over the previously anesthetic areas. December 18, the patient was able to move his legs voluntarily, and from this time on his condition gradually improved. December 26, with some assistance, he was able to walk the length of the ward, and the bladder and rectal functions were restored. He had an occasional "cramp," but never required opiates.

DISCUSSION

Dr. Alfred S. Taylor: I performed the operation in this case. There were one or two points that should be brought out with a little more emphasis. Early in the course of this man's illness he developed what was regarded as an abscess at the junction of the sternum and the second costal cartilage. This was opened, but after two or three months it still contained some old, chronic inflammatory material: it appeared as a distinct swelling, slightly tender, and was very suspicious of a gumma. Of course, the fact that the Wassermann reaction was negative rather militated against that theory, and the abscess was possibly of tuberculous origin. The von Pirquet test, however, was also negative. Another suggestive point was the evidence of the presence of inflammatory material on both sides of the spine over the actual seat of the trouble. The transverse processes of the fifth, sixth and seventh cervical vertebrae were more or less indistinct in outline on account of the presence of this material.

The operation in this case was an exploratory right hemilaminectomy. There was nothing unusual observed in the laminae themselves. When, however, the laminae were removed, the dura seemed to fill the entire spinal canal. The cord itself was somewhat congested, so that it entirely filled the dural cavity, interfering with the flow of spinal fluid. The cervical canal, instead of widening as it ordinarily does, was distinctly narrowed. Apparently there must have been a combination of a congenital malformation, plus some inflammatory condition of the cord. When the operation was being completed, the dura was not sutured. The bone was not replaced and the muscles were sutured.

Dr. J. R. Hunt: Syphilis of the vertebral column is rare, but should always be considered in cases of spondylitis. The cervical region is most frequently involved in this group of cases, and the meninges or the cord might be compressed or directly involved by the syphilitic process at the same level. In the case reported a syphilitic periosteitis and osteitis with consecutive peripachymeningitis should be considered as a possible clinical diagnosis.

Dr. L. P. Clark: I do not think that we were justified in ascribing the condition in this case to syphilis, as that diagnosis was not borne out by the serologic tests. While these spinal decompression operations often prove apparently beneficial, I am inclined to believe that these cases should be investigated a little more closely and sifted out a little finer before an operation of this kind is recommended. Although a decompression operation is beneficial in a certain few cases, it is still a rather questionable procedure in cases in which the diagnosis is obscure.

Dr. J. H. Larkin: I do not think that a diagnosis is possible. A syphilitic osteitis or periosteitis could easily have been demonstrated from its objective features. A specific inflammation of the meninges of the dura spinalis would certainly have shown some objective features to give rise to such phenomena as this man presented.

Dr. Foster Kennedy: I do not agree with Dr. Larkin that a syphilitic pachymeningitis always presents such clear objective features that it cannot be mistaken for anything else. When one has cut down on the cord and finds an inflammation of the dura mater, it is not always easy to say whether it is tuberculous or of specific origin. I see no objection to advising an exploratory operation in a case of this kind. The man had certain definite symptoms pointing to a certain area of the cord. He was obviously growing worse, and even if the operation had failed to produce any improvement in his condition, it would still have been warranted.

Dr. S. P. Goodhart: Conditions similar to this are not so very uncommon. I recall a case in which Dr. Taylor operated about two years ago. The condition was practically the same, and the operation, as in this instance, consisted of a decompression. That patient was seen by Dr. Dana, who concurred in the diagnosis of suspected neoplasm. A decompression was done, both for relief of pressure and for exploration, and although no tumor was found, the patient improved very much. There was no other way in which she could possibly have obtained that relief. The cord at the site of operation showed congestion. The motor and sensory symptoms before operation pointed positively to a localized lesion approximately at the second dorsal segment. Decompression and exploration in these cases were justified and even imperative.

Dr. J. F. Terriberry: Antisyphilitic treatment was not given a trial in this case, as it was taken for granted that the condition was not specific, based on the pathologist's report. Is that a safe and sound doctrine? Is it right to proceed surgically in a case of this kind before giving the patient the benefit of a thorough course of antisyphilitic treatment? I recently saw a case with a condition of the ribs similar to that described in this instance, and the lesion cleared up entirely under specific treatment.

The Traumatic Neuroses: A Retrospect and a Forecast

Dr. Pearce Bailey: Considered retrospectively, the traumatic neuroses fall naturally into three periods: (1) the initial, organic period of Erichsen; (2) the functional period, made possible by the work of Charcot, and (3) the modern, analytic period, which has encouraged the psychologic dismemberment of hysteria. While these disorders existed before Erichsen's time, their history dates from the appearance of his book. As knowledge of the anatomy and physiology of the nervous system and the symptoms of its diseases progressed, some of the errors of Erichsen's work became apparent. It became evident that a fracture of the spine was the same whatever the accident that caused it, and that locomotor ataxia, developing in direct sequence to a railway collision, did not disprove that the man who developed it had syphilis, or that he would not have become ataxic without any accident. But while these frankly organic cases found their true place with advancing knowledge, it took much longer for the purely functional nature of imposing physical symptoms to be recognized, and when this happened, in Charcot's great days at the Salpêtrière, the traumatic neuroses entered on the second or functional period of their history. For many years during this period the traumatic neuroses consisted of traumatic hysteria, such as Charcot described, and of traumatic neurasthenia. There were other neuroses advanced from time to time as characteristic of accidents, but these two were the chief and most important ones.

A true traumatic neurosis, in which the question of fraudulent simulation can be excluded, may be regarded as a more or less subconscious expression on the part of the plaintiff of his wishes or of his fears, his mind having been thrown back to a more primitive state by the accident. With the high money premium put on personal injuries, it is easy to see in what way these wishes might point, but the desire for financial profit, while it was doubtless important, had been much overestimated in the original genesis of this affection. A desire for revenge against the person who had injured him was a much more potent force in determining the changes in personality. The study of the traumatic neuroses has always been hindered by the fact that it has rarely been possible to get at all the conditions of the case, and they have rarely been studied from the analytic point of view which has thrown so much light on neuroses of other origins. If the hypothesis set forth is correct, the explanation of every traumatic neurosis must be found in disturbances of consciousness: the accident affects consciousness more or less violently, and at once begins to loosen restraint in the subconscious regions. The individual symptoms of traumatic neuroses, namely, hemiplegia, the paraplegia, the blindness, etc., which have been regarded hitherto as the most important, seem important only in so far as they give a clue to mental motives: they are the clinical expression of fear or desire; their particular form is determined partly by the general make-up of the patient, and partly by environmental conditions. My experience with cases designated as traumatic hysteria has been that before the legal case was terminated, there was little or no improvement; that after the case, as such, was terminated, there was eventually disappearance of the physical symptoms, such as paralysis, etc., in almost every case. This recovery did not occur immediately, as claim-agents maintained, and might be delayed several months or years.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

April 17, CLXVIII, No. 16, pp. 561-600

1 Hand Lesions Following Injuries of Upper Extremities. C. H. Bucholz, Boston.
2 Head Injuries of Newborn. D. C. Wilcox, Boston.
3 Self-Mutilation by Insane. J. M. Keniston, Middletown, Conn.
4 Fecal Form. F. L. Burnett, Boston.
5 Suggestion for Improving Training of Ophthalmologists. W. B. Lancaster, Boston.
6 *Operation for Cure of Vaginal Hernia. H. A. Lothrop, Boston.

6. Operation for Cure of Vaginal Hernia.—The type of pelvic hernia passing down behind the uterus in the fossa of Douglas, pushing the upper portion of the posterior vaginal wall into the vagina and then out the vulva, is the variety which Lothrop says has been called vaginal hernia. He describes his operation in one case as follows:

> Patient in Trendelenburg position. Median incision. Intestines packed away from the pelvis with long wet gauze strips. The broad ligaments divided close to the uterus; the anterior half of the uterus removed down to the cervix, the canal of the uterus being included in this excised portion. The broad ligaments and remaining half of the uterus utilized later to help form a support to the floor of the pelvis.
>
> The next step is to dissect up the peritoneum from the lining of the sac and deeper portion of the pelvis. A transverse incision is made at the level of the cervix uteri and just behind it, and continued in front across to either side of the pelvis. The posterior edge of the peritoneum is then dissected up and the stripping continued until the rectum and floor of the pelvis are exposed. With care and patience this is accomplished without tearing the peritoneum and the whole lining of the hernial sac is freed. It is obvious that it would be easy to fall in attempting to elevate the peritoneum from the sac and deep portion of the pelvis. This is done by rolling the peritoneum over dry gauze held in one hand, and with the other hand the parts are pushed away, using blunt dissection by means of gauze, smooth forceps or fingers. The lax vaginal wall forming part of the sac, is then pushed down out of the way, to be disposed of later.
>
> A pelvic floor is then made by suturing with chromicized catgut the broad ligaments stretched horizontally across the pelvis and overlapped. The remaining half of the uterus is tilted back over the ligaments, and its two free corners sutured to the pelvic fascia on either side of the rectum, leaving just room for the passage of the rectum. Finally, the peritoneum, which is held out of the way posteriorly, is drawn forward over the floor of the pelvis and sutured to the free edge of the peritoneum in front. Thus the general abdominal cavity is shut off and the pelvic cavity left covered entirely with peritoneum. The abdominal wound is closed by layers in the usual manner.
>
> The next step is the treatment of the posterior vaginal wall from below. Patient is put in the lithotomy position. A curved incision is made, as in the ordinary splitting operation for rectocele at the vaginal outlet, and the posterior vaginal wall is separated from the rectum and the tissues lateral to it. The edges of the levator ani muscle are freed and held together with interrupted stitches. After the excess of the posterior wall has been removed at its lower free edge, the closure is the same as in any operation for rectocele.

Bulletin of Manila Medical Society

February, V, No. 2, pp. 13-22

7 Sanitation in Smaller Filipine Towns. F. C. Baker, U. S. Army.
8 Experiences in Anesthesia in Philippine General Hospital. E. J. Ochsner, Manila.

Colorado Medicine, Denver

April, X, No. 4, pp. 109-145

9 Hemorrhage of Newborn. J. W. Amesse, Denver.
10 Recent Interpretations of Feeding Disturbances in Infants. F. P. Gengenbach, Denver.
11 *Immediate Treatment of Fractures. W. W. Grant, Denver.
12 *Fractures About Joints. B. O. Adams, Pueblo.
13 *New and Apparently Accurate Modification of Wassermann Reaction. W. Burdick, Denver.

11. **Treatment of Fractures.**—The larger the external wound, says Grant, the greater the danger of infection and necessity for operation. The more extensive the laceration and contusion of soft parts in open fractures—with or without comminution of bone—the greater the probability of infection and necessity of final operation. In such cases, operation should be delayed until the soft parts are in a state of healthy repair, when bone repair will proceed more rapidly and satisfactorily. Penetration of the skin by a fragment of bone does not of itself justify operation. When dirt and filth are ground into the wound, operation should not be delayed. In open patella fractures, operation should be immediate. In such fractures as separation of epiphyses of long bones, especially with dislocation, operation should be immediate. In fracture of the tibia and fibula, *immediately above the ankle joint, operation* will secure the best and most satisfactory anatomic and functional result. Noticeable deformity and functional incompetence, not otherwise remediable, always demand operation. In closed fractures, operation is required in the absence of reasonably accurate adjustment and maintenance, without perceptible deformity. In operative cases the importance of casts or splints, and *extension* should be recognized as valuable aids. In all fractures, the first essential consideration is to prevent sepsis.

12. **Fractures Near Joints.**—Adams pleads for the more general, frequent and repeated use of Roentgen-ray in emergency bone surgery and insists that operative interference is justified in order that adjustment of disarranged parts may be accomplished with precision and maintained persistently. He says:

> When we are confronted with serious fractures into or close to important joints, as the elbow, knee, hip, shoulder, etc., we are prone to be satisfied with a "grave prognosis" and to let the patient nurse the notion, which he usually has, that to open into the articulation would let the "joint-water" out and give him a stiff joint anyway. And so we are apt to leave a condyle tipped, a tuberosity displaced or an articular process dislodged, whereas a four or six penny nail or a slender screw would hold the part in perfect apposition, reduce the callus and restore the joint. Especially is this true of the condyles and tuberosities of the limb bones. These are *the structures most apt to be displaced by muscle pull* and the parts most difficult to retain in position by any sort of external splint or appliances. Without the almost exact replacement of these bony structures *entering into the formation of joints*, there is, of necessity, a larger or lesser amount of bone bridge or callus and consequent defunctionating of the articulation.

Bone *pegs* and ferrules were introduced by the late Dr. Senn and have the advantage of being absorbable. The wire nail was first used by Von Langenbeck and first in America by Willy Meyer. Its use has so far been largely restricted to fractures of the trochanter and at the neck of the femur, but it is quite as serviceable in retaining the condyles of that bone as well as those of the humerus, although Adams is of the opinion that the slender screw, threaded to the head with threads as deep as is compatible with the required strength, will eventually supplant nails and pegs entirely, particularly because they admit of more accurate application.

13. **Wassermann Reaction.**—Burdick describes his modification of the Wassermann test as follows: Ten test-tubes about 12 by 1 cm. in size are placed in a row. This size tube is used in order that the comparatively small volume of fluid used in the test will assume a column longest in its vertical diameter which facilitates the final readings. The tubes are marked from one to ten to indicate in tenth cubic centimeters the corpuscle content of each tube. Into each tube is placed 1 c.c. of 0.9 per cent. salt solution. Into tube No. 1 is now placed 0.1 c.c. of 2½ per cent. washed sheep blood-corpuscles, in tube No. 2, 0.2; in tube No. 3, 0.3, and so on up to 1 c.c., in tube No. 10. Into each tube is now placed exactly 0.1 c.c. of fresh, unheated serum to be tested. (By repeated experiments Burdick has arrived at the fact that two drops from the average capillary pipet, such as is used in blood-serum work, when held at an angle of about 50 degrees, with just enough pressure exerted on the teat to promote the collection of the drop at the point of the pipet, is equivalent to 0.1 c.c.) The tubes are now slightly agitated to insure the mixture of their contents and placed in a water bath at 37 C. for exactly ten minutes. At the end of this time they are all removed and observed.

In the vast majority of cases the hemolytic power of the serum under observation will be revealed by this titration in terms of tenths of a cubic centimeter of the 2.5 per cent. solution of sheep blood-corpuscles which have been completely hemolyzed during the ten-minute incubation. The serums which Burdick has thus far tested have shown an average hemolytic strength of 0.45 c.c. Occasionally a serum is very rich in hemolysin which will hemolyze 1 c.c. of a 2.5 per cent. sheep corpuscle suspension in much less than ten minutes. It is then necessary to carry the titration on up to perhaps 2 c.c. and over in order to find its exact hemolytic power. An active serum may in itself, contain an enormous excess of hemolysin, thereby defeating this purpose. On the other hand a serum may be so poor in hemolysin that one-tenth cubic centimeter of it will not hemolyze the one-tenth cubic centimeter of sheep blood-corpuscle solution in tube No. 1. In this case it is necessary to titrate 0.2 c.c. of the serum in the same manner as described for 1 c.c.

Burdick has thus far found it necessary to use 0.2 c.c. of serum in only 10 per cent. of serums worked with. Two per cent. of serums worked with were found to be so poor in hemolysin as to be incapable of hemolyzing 0.1 c.c. of the sheep corpuscle suspension when used in 0.2 c.c. amounts. In this case the serum is unfit for use in this reaction. Having arrived at the exact inherent hemolytic power of the serum under observation, the test is carried out in the following manner: Into four tubes marked A, B, C and D, is pipetted 1 c.c. of saline solution as was done in the titration tubes. Into all four tubes is pipetted 0.1 c.c. of serum (0.2 c.c. if the previous titration calls for that amount). Into tube "D" place the previously determined dose of antigen, double the amount of which must be used in case it is necessary to use double the amount of serum. These are now placed in the water bath and incubated for twenty-five minutes, in which time, *in case the serum contains luetic antibody, the complement will become fixed in tube "D."*

Complement is more or less thermolabile. This susceptibility to heating is more marked in some serums than in others. The twenty-five minute exposure to incubation temperature may therefore be expected to lessen the hemolytic power of the serum to about three-fourths that indicated by the titration. Therefore, at the end of the twenty-five minute incubation, tubes "A," "B," "C" and "D" are removed from the water bath, whereupon tube "A" receives three-fourths the titrated dose of sheep-corpuscle suspension and is returned to the water bath for ten minutes, at the end of this time being removed and observed. If complete hemolysis has taken place in tube "A," tube "B" may be discarded. If, however, complete hemolysis has not taken place in tube "A," tube "B" receives *three-fourths of the corpuscle dose which failed to hemolyze* in tube "A" and is incubated ten minutes. Burdick has never observed hemolysis failing to take place in tube "B," which in fact seldom need be resorted to, tube "A" usually showing complete hemolysis in ten minutes.

This observation being completed one may proceed to the test, tube "C" being the control tube and tube "D," which contains the organ extract, or antigen, being the reaction tube. It is necessary still further to reduce the *amount of* sheep blood in tubes "C" and "D" to three-fourths the amount used *in* tubes "A" and "B." These precautionary measures allow a certain leeway for the effectiveness of the hemolytic action of the serum and eliminate certain sources of error which might lead to an unspecific *binding. When working* with active serum one of the most important requirements for success is the freshness of the serum to be examined. It is, therefore, absolutely necessary that serum be *preserved on* ice if it is not possible to use it at once. After standing over ten or twelve hours it is not fit for use in this reaction. It is also important that serum to be used in this reaction be absolutely free from blood particles and corpuscular substance. The presence of the minutest trace of blood particle can negative a positive reaction.

Illinois Medical Journal, Springfield

April, XXIII, No. 4, pp. 353-470

14 *Fulguration Treatment of Bladder Tumors. H. L. Kretschmer, Chicago.
15 Needs of Eye, Ear, Nose and Throat Surgeon in General Hospitals. F. Allport, Chicago.
16 Diseases of Uveal Tract Due to Auto-Intoxication. C. W. Hawley and M. H. Mack, Chicago.
17 Facilitating Early Treatment of Mental Disorders. H. J. Smith, Watertown.
18 Occupation in Treatment of Insane. C. Ricksher, Kankakee.
19 Diffuse and General Peritonitis with Plea for Early Diagnosis. H. M. Hayes, Peoria.
20 Preventive Medicine. W. C. Bouton, Waukegan
21 Arteriosclerosis Not Disease of Old Age Alone. D. Lichty, Rockford.
22 Report of Four Years' Work on Cancer. T. A. Hogan, Chicago.
23 What Shall We Do with Members Who Cut Prices? O. C. Church, Woburn.

14. Abstracted in The Journal, June 1, 1912, p. 1709.

Journal of Nervous and Mental Disease, Lancaster, Pa.

April, XL, No. 4, pp. 217-287

24 Punctiform Hemorrhagic Pigmentation of Cerebral Pia Mater. E. M. Williams, Philadelphia.
25 Present Knowledge of Status of Apraxia with Study of Case. A. Glascock, Washington, D. C

Journal of Outdoor Life, New York

April, X, No. 4, pp. 96-126

26 Safe and Cleanly Disposal of Sputum and Organic Wastes. T. S. Carrington, New York.
27 Disinfection and Disinfectants. F. Schneider, New York.
28 Efficiency of Refrigerators. P. A. Lewis and B. I. Barker, Philadelphia.
29 Nature of Serums, Vaccines and Tuberculins, with Special Reference to Their Use in Treatment of Tuberculosis. T. W. Hastings, New York.

Medical Record, New York

April 19, LXXXIII, No. 16, pp. 691-736

30 Montessori Method from Physician's Viewpoint. G. W. Jacoby, New York.
31 Successful Splenectomy in Primary Splenomegaly of Gaucher Type. W. A. Downes, New York.
32 Method of Classification, Diagnosis and Therapy of Kidney Disorders, Based on Functional Testing. H. E. Baright, New York.
33 Barlow's Disease in Infant Fed on Pasteurized Cow's Milk. C. A. Pfender, Washington, D. C.
34 Some Common Forms of Insanity E. Gillespie, Binghamton, N. Y.
35 *New Treatment for Acute Gonorrhea. O. L. Mulot, Brooklyn
36 Case of Acute Septicopyemia. T. G. Orr, New York.

35. **Treatment for Acute Gonorrhea.**—Mulot injected a 5 per cent. tincture of iodin and zinc sulphocarbolate in eight patients with good result. The injections were given one to three times daily until the discharge had ceased completely.

Michigan State Medical Society Journal, Grand Rapids

April, XII, No. 4, pp. 189-246

37 Recent Progress in Ureteropyelography. W. F. Braasch, Rochester, Minn.
38 Heat Factor in Alimentary Disturbances of Infancy. J. H. Crosby, Plainwell.
39 Intratracheal Insufflation: Principles and Uses. J. J. Fabian, Grand Rapids.
40 Salvarsan in General Practice. H. L. Arnold, Owosso.
41 Medical Inspection of Schools. F. S. Root, Monroe.
42 Life Insurance Examinations. W. J. Stapleton, Detroit.
43 Medical Jurisprudence. Workman's Compensation Act. A. H. McMillan, Bay City
44 Garbage and Sewage Disposal in Germany. C. B. Burr, Flint.
45 Tracheobronchoscopy for Removal of Foreign Body: Report of Case. J. R. Rogers, Grand Rapids.

New York Medical Journal

April 19, XCVII, No. 16, pp 797-852

46 Vaginal Surgery. S. W Bandler, New York.
47 American Assassins: Their Prospective Prevention. W. Browning New York.
48 Needs of Eye, Ear, Nose and Throat Surgeon in General Hospitals. F. Allport, Chicago.
49 *Contra-Indications to Curetting. R. T. Frank, New York.
50 Gastric Ulcer: Its Non-Surgical Treatment. E. E. Cornwall, New York.
51 Hematologic Equilibrium in Pulmonary Tuberculosis. C. Rayevsky, Liberty, N. Y.
52 Chronic Interstitial Nephritis. S. E Earp Indianapolis, Ind.
53 *Convalescing Children. L. Kerr, New York.
54 The Nose and Throat. E. Danziger, New York.
55 *Whooping-Cough: Its Treatment with Vaccine. S. M. Wilson, Philadelphia.
56 Blood Catalase in Malignant Tumors. G. L. Rohdenburg, New York.
57 Instruction in Sex Hygiene. M. S. Macy, New York.
58 Beriberi. S. B. Doyle, New York.

49. **Contraindications to Curetting.**—As a basis for his paper Frank uses mainly 2,000 consecutive cases taken from dispensary records, in which careful note was made of the number of curettings, and the reason for which this interference was practiced. His statistics show that of 2,000 patients more than one patient out of every five had been curetted at some time. Total number of cases, 2,210; no record of abortions or curettages, 210; number of cases with records, 2,000; curetted, 458 or 22.5 per cent.; abortion, 721 or 36 per cent.; of 721 cases of abortion, curetted, 330 or 45.7 per cent.; 473 cases with one abortion curetted, 200 or 42 per cent.; 166 cases with two abortions curetted, 76 or 46 per cent.; of 82 cases with three or more abortions curetted, 54 or 66 per cent.; of 1,279 cases who had never aborted, curetted, 128 or 11 per cent.; of 1,279 cases who had never aborted, 1,151 not curetted. Of these, curetted post partum, 20; curetted for sterility, 32; curetted for menorrhagia or metrorrhagia, 36; curetted for leukorrhea, etc., 40.

53. **Convalescing Children.**—In institutions, particularly in hospitals that have any considerable number of children as patients, Kerr says, there should be added to the hospital force a trained kindergartner or at least some one who is sufficiently trained to stimulate and guide the increasing powers for mental and moral development. It is just as important to provide thus for the child during convalescence as it is to provide adequate and skilled nursing during acute illness.

55. **Whooping-Cough.**—Wilson reports on a series of twenty-four patients treated with pertussis vaccine. Every child who was not in the beginning stage of the disease, was given forty million killed organisms. After the second injection, given forty-eight hours later, the discolorations began to fade in the two children previously mentioned, and the nosebleeding ceased as the paroxysms diminished in frequency and in severity. The characteristic whoop subsided, and the cases soon became, clinically, simple cases of bronchitis.

This was the history of twenty-four cases, excepting that in two bronchopneumonia developed, but the patients recovered. One case of phthisis florida was, at first, mistaken for whooping-cough, or perhaps was excited from latency into violence by the latter. In every case seen during the early stage of the whooping, one flask of vaccine, representing twenty million killed bacteria, was administered. In those few for whom this could not at first be procured, the dose was larger, forty million, but the subsequent doses depended on the temperature range and the severity of the cough. If a child had a daily temperature range of two or more degrees, with a rigor and free diaphoresis after injection, his second dose was not larger than the first. If this reaction occurred a second time, the third dose was no larger, but as soon as the range fell to one degree or less, the dose of vaccine was increased to double, triple, or more.

In some cases the reaction was always feeble, and in these the improvement was likewise, as a rule, less striking, but nevertheless evident. In several of the cases a good reaction appeared after a combined injection of cacodylate of sodium, gram 0.03 or even 0.025, with twenty or thirty million bacteria when it failed without the cacodylate. Many of these children showed tuberculous stigmata, many syphilis, or a combination of these. Among these twenty-four cases, the shortest duration of treatment was nine days, the longest forty-eight, and the average twenty-three.

Northwest Medicine, Seattle, Wash.

April, V, No. 4, pp. 89-116

59 Congenital Hypertrophic Stenosis of Pylorus with Report of Three Cases. J. B. Eagleson, Seattle, Wash.
60 Pathology and Treatment of Some Common Joint Disorders. E. A. Rich, Tacoma, Wash., and Portland, Ore.
61 *Correction of Congenital Equinovarus: Report of Thirty-Six Cases. C. F. Eikenbary, Spokane, Wash.
62 Clinical and Prophylactic Suggestions for Difficult Feeding Cases in Infants. C. E. Carter, Salt Lake City, Utah.
63 Recent Developments in Infant Feeding. W. T. Hasler, Lehi, Utah.
64 Cataract and Smith Operation. P. B. Wing, Tacoma, Wash.
65 Extirpation of Lacrimal Sac. S. E. Wright, Portland, Ore.
66 Improved Oblique Illuminator. J. L. McCool, Portland, Ore.

61. **Correction of Congenital Equinovarus.**—In four cases out of his series of thirty-six Eikenbary found it necessary to remove a wedge from the outer side of the foot in order to make the correction. In all four of these cases the deformity was extreme, in two instances the feet pointing directly backward. This operation is, he believes, superior to the Phelps, as it does not give a chance for the relapse and is not followed by a weak foot, although the foot is slightly shortened. Within the last four and a half years forty cases have come under Eikenbary's observation. Thirty-six of these have been treated. Twelve patients were under five weeks of age and all of these have been treated by manipulation with gradual correction, the feet, in the intervals between the manipulations, being supported by plaster casts. In one instance adhesive plaster was used instead of plaster of Paris. Nine of these patients have been dismissed as cured and have had all supports discarded for periods ranging from three months to three years; three are still wearing supports. In four of the cases a subcutaneous division of the Achilles was necessary. Eight were from three months to eighteen months of age. All of these were anesthetized and the feet over-corrected at one operation. Tenotomy of the Achilles tendon in all cases, no other tendons divided, no incision made.

Five of these patients have been dismissed as cured, the casts being discarded from two months to four years. Two are still wearing plaster supports. One patient is wearing the adhesive support. Seven were from two to five years of age. Overcorrection was made in one operation. Subcutaneous tenotomy of the Achilles in three cases, lengthening of the Achilles in two cases, no other tenotomies and no other incision in any of the cases. Three have been dismissed as entirely cured; two patients are still wearing plaster supports, one is not wearing any supports and, by reason of this, has a slight tendency toward pigeon-toe. One case has been lost sight of and the result is therefore unknown. Six were between 5 and 11 years of age. Forcible correction alone with the division of the Achilles was the method used in two cases. Forcible correction following the removal of a large wedge from the outside of the foot in four cases, tenotomy of the Achilles in all cases. Two patients dismissed as cured, four still under treatment. Two were 14 years of age; forcible correction and tenotomy of the Achilles, no incisions. One patient was dismissed as cured, the supports having been discarded six months ago, one still wearing plaster supports. One was 22 years of age. This deformity was of moderate grade and the correction was accomplished by the so-called bloodless method. Tremendous force had to be used in the correction and the end result was perfect. Eikenbary says that there are no incurable cases of congenital equinovarus. There are cases that are very hard to correct, cases that are so severe that the correction may have to be done in two sittings, cases that may relapse and have to be done over again, but there are no cases that are incurable.

Ohio State Medical Journal, Columbus

April, IX, No. 4, pp. 165-206

67 Tuberculin and Roentgen Ray in Recognition of Early Pulmonary Tuberculosis. C. O. Probst, Columbus.
68 Causes of Perforation of Nasal Septum. W. B. Chamberlain, Cleveland
69 Radium Treatment in Tumor of Orbit. C. F. Clark, Columbus.
70 Bacteriology of Ear. E. M. Weaver, Akron.
71 Intracapsular Cataract Operation from Viewpoint of Assistant. J. W. Millette, Dayton.
72 Speech Defectives. C. S. Means, Columbus.

Ophthalmic Record, Chicago

March, XXII, No. 3, pp. 117-174

73 Infectious Suppurative Keratitis. E. A. La Mothe, Chicago.
74 Dystrophia Epithelialis Corneas. R. G. Reese, New York.
75 Practical Electric Perimeter. N. M. Black, Milwaukee, Wis.
76 Case of Cerebello-Pontine Tumor, Diagnosed and Located Three Years Before Death. C. A. Veasey, Spokane, Wash.

Surgery, Gynecology and Obstetrics, Chicago

April, XVI, No. 4, pp. 341-462

77 *Fetal Peritoneal Folds of Jonnesco, Treves and Reid, and Their Probable Relationship to Jackson's Membrane and Lane's Kink. J. R. Eastman, Indianapolis.
78 *Etiology of Lane's Kink, Jackson's Membrane and Cecum Mobile. F. G. Connell, Oshkosh, Wis.
79 Bilocular Hernia. V L. Schrager, Chicago.
80 *Chorio-Epithelioma. E. Cary, Chicago.
81 Indications for and Results of Operative Treatment of Otitic Meningitis. E. W. Day, Pittsburgh.
82 Prostatectomy. E. S. Judd, Rochester, Minn.
83 Acute Perforative Cholecystitis Complicated by General Peritonitis. C. M. Remsen, Atlanta, Ga.
84 *Postoperative Results of Amputation of Cervix. V. N. Leonard, Baltimore.
85 Primary Traumatic Dorsal Complete Radiocarpal Dislocation. A. M. Miller, Danville, Ill.
86 *Prognostic Value of Leukocyte Count in Pelvic Suppurative Conditions. J. T. Smith, Cleveland.
87 Goiter and Its Relation to Its Structural and Physiologic Units. W. C. MacCarty, Rochester, Minn.
88 *Abderhalden's Biologic Test for Pregnancy. P. F. Williams and R. M. Pearce, Philadelphia.
89 Employment of Protective Enzymes of Blood as Means of Extracorporeal Diagnosis. C. P. McCord, Detroit.
90 Radical Operative Cure of Double Obturator Hernia. C. Van Zwalenburg, Riverside, Cal.
91 Prostatectomy by Composite Method. A. E. Rockey, Portland, Ore.
92 Open Treatment of Fracture of Femur. A. McGlannan, Baltimore.
93 Amputation Flaps. J. N. Jackson, Kansas City, Mo.

77. **Fetal Peritoneal Folds.**—Eastman calls attention to the striking similarity of the fetal peritoneal fold described by Jonnesco and Juvara, and designated by them "the parietocolic fold," to the adult peritoneal anomaly described as membranous pericolitis. He further calls attention to the probable causal relationship between the bloodless fold described by Treves and a pocket-like, anomalous peritoneal reflection, which is not rare in the adult and which passes from the mural peritoneum on the right side quite low down, extending upward and inward over the caput coli and vermiform appendix, to be attached to the last two or three inches of the ileum and to the peritoneum of the caput coli. It forms the boundary of a precolic fossa in which the cecal head and the appendix may rest as in a pocket. It is likely that the caput coli with the appendix are, not rarely during operations for appendicitis, shelled out of this peritoneal pocket, the peritoneal fold, that is the bloodless fold of Treves, which forms the pocket being looked on by the operator as an affair of adhesion formation.

Moreover, although conceptions of Lane's ileopelvic band, the structure to which is ascribed an important part in the causation of Lane's kink, are somewhat varying, Eastman recalls that Douglas Reid of the University of Cambridge, has described under the name "genito-mesenteric fold" a rather common fetal fold of peritoneum which passes from the terminal portion of the ileum into the pelvis. Concerning this genito-mesenteric fold, which may be found readily in a surprisingly large percentage of fetuses after the seventh month, or even after birth at term, the question is fairly raised as to whether it is not related to angulations or gravitations or other deformities of the terminal ileum to which it is attached. Twenty-eight fetuses were examined by Eastman. The findings are reported in detail.

78. Abstracted in The Journal, January 11, p. 148.

80. **Chorio-Epithelioma.**—The three most exceptional features in Cary's cases are, first, the presence of villi in the secondary tumor growths; secondly, the long lapse of time after operation before fatal termination of the condition from metastatic growths; and lastly, the peculiar lesion in the cord that gave such interesting clinical manifestations of par-

aplegia. The first two conditions have been noted in the literature, but the lesion in the cord is unique.

84. **Postoperative Results of Amputation of Cervix.**—An analysis of 128 cases reported by Leonard shows that hemorrhage after amputation of the cervix is not uncommon (5 per cent.), and may occur weeks after operation. Cases of late postoperative hemorrhage are due to infection rather than faulty suture of the cervix. After amputation of a diseased cervix, 90 per cent. of the patients show noticeable improvement in general health. Persistent leukorrhea of cervical origin is cured in 60 per cent. of cases and improved in 30 per cent. About half the patients experience less menstrual pain after the operation. Four-fifths of the women remain sterile after operation; yet in certain selected cases of persistent sterility amputation of the cervix seems to be the only practicable procedure. This postoperative sterility is probably mechanical in origin, and may be due either to a narrowing of the external os through encroachment by the edges of the vaginal mucosa or to a stenosis of the cervical canal, consequent on the iris-like contraction of the cicatrix which invariably follows the operation. A pregnancy following amputation of the cervix has not more than an even chance of progressing to full term, in which event serious dystocia due to cicatricial rigidity of the cervix is the operation of choice in elderly women, but the procedure should be applied to those in the child-bearing period only when more conservative methods of treatment, such as Hunner's linear cauterization or thorough curettage of the cervix, have failed.

86. **Leukocyte Count in Pelvic Suppurative Conditions.**—In a series of 100 such cases studied by Smith the leukocyte counts were decidedly of more prognostic value than the preoperative temperatures. With pus in the pelvis and a leukocytosis above 14,000 some trouble arose during the convalescence in a majority of the 100 cases. With pus in the pelvis and a white count of less than 14,000 trouble developed during the convalescence in only a small minority of the 100 cases. The numerical average of all the hundred leukocyte counts was 16,200. The highest count was 38,000; the lowest, 5,700.

88. **Abderhalden's Biologic Test for Pregnancy.**—This test (which THE JOURNAL has discussed editorially more than once) is based on the assumption that a protein that is foreign to the blood will cause the development in the body fluids of an enzyme capable of splitting such foreign protein. The use of Abderhalden's test for pregnancy, employing the dialysis method and the ninhydrin color reaction, gave the authors positive results with each of twenty-eight serums from pregnant women and eight from women in the post partum period, including one after abortion. The test has never been negative in a known pregnancy. On the other hand, the serum of pregnancy reacts with tissues (kidney, heart, uterus) other than placenta, and indeed with other than human tissues (e. g., dog's kidney). Also serums of two cases of nephritis, one of tabes and one of infection (carbuncle), and occasionally of some individuals apparently in perfect health, have given the reaction with placenta and other tissues.

The ninhydrin reaction seems far superior to the biuret reaction. It is also important that Schleicher and Schull's smaller dialysis sacks should be used rather than the fish-skin membranes originally recommended. Results as satisfactory as those by dialysis are obtained by mixing tissue and serum in tubes and, after incubating for twenty-four hours, testing the filtrate obtained on coagulation by heat and acetic acid with ninhydrin. Inactivation of the serum causes a great diminution in the degree of reaction but does not cause it to disappear entirely. At zero temperature no reaction occurs. The power of a serum to cause the reaction persists, when the serum is kept under proper conditions of temperature, for at least seven days. As the result of their studies the authors feel that this test cannot be accepted as an accurate clinical method until it has been more thoroughly investigated and the possible sources of error corrected. This conclusion, however, applies only to Abderhalden's dialysis method, and not to his optical method, with which they have had no experience.

Texas State Journal of Medicine, Fort Worth

April, VIII, No. 12, pp. 321-352

94 Plea for More Care in Diagnosis of Abdominal Surgical Conditions: Some Newer Methods of Diagnosis. C. H. Harris, Fort Worth.
95 Some Medicolegal Aspects of Inguinal Hernia. T. T. Jackson, San Antonio.
96 Some Impressions of Oxford Ophthalmologic Congress and Ophthalmologic Section of British Medical Association at Birmingham. J. O. McReynolds, Dallas.
97 Subcutaneous Medication in Anemias. M. K. Robbie, San Antonio.
98 Tuberculosis from an Economic Viewpoint. H. B. Decherd, Dallas.

United States Naval Medical Bulletin, Washington, D. C.

April, VII, No. 2, pp. 165-320

99 Mental and Moral Training for War. J. F. Leys, U. S. Navy.
100 Detention and Probation System of Punishment and Classification of Offenses of Personnel of United States Naval Disciplinary Barracks. W. L. Mann, U. S. Navy.
101 Laboratory Notes on Bacillus of Dysentery. C. S. Butler, U. S. Navy.
102 Traumatic Dislocation of Patella. M. B. Miller, U. S. Navy.
103 Value of Studying Pulse-Rate with Blood-Pressure in Croupous Pneumonia. H. A. Hare, U. S. Navy.
104 Treatment of Frambesia with Salvarsan. E. U. Reed, U. S. Navy.
105 Cutaneous Anthrax, with Report of Case. E. C. White, U. S. Navy.
106 Essence of Orange-Ether Anesthesia. C. M. Oman, U. S. Navy.
107 Iodin Sterilization as Now Used at United States Naval Hospital, Norfolk, Va. W. M. Garton, U. S. Navy.
108 Hygiene of Personnel Below Decks. B. F. Jenness, U. S. Navy.

West Virginia Medical Journal, Wheeling

April, VII, No. 10, pp. 325-360

109 After-Treatment of Surgical Operations. C. S. Hoffman, Keyser.
110 Paresis, or General Paralysis of Insane. A. H. Kunst, Parkersburg.
111 Venereal Prophylaxis. P. S. Keim, Elk Garden.
112 Prophylactic Vaccine Treatment of Typhoid. C. L. Moore, Upper Tract.
113 Hereditary Alcoholism is an Undeniable Fact. J. W. Williams, Richmond.
114 Actinomycosis of Lower Jaw. W. Golden, Elkins.
115 Shock and Its Management. I. Hardy, Morgantown.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Annals of Tropical Medicine and Parasitology, Liverpool

March 31, VII, No. 1, pp. 1-181

1 Trypanosomiasis of Domestic Animals in Northern Nigeria. J. W. S. Macfie.
2 Further Measurements of Trypanosoma Rhodesiense and T. Gambiense. J. W. W. Stephens and H. B. Fantham.
3 *New Mosquito-Proof and Storm-Proof House for Tropics. T. F. G. Mayer.
4 Study of Color Marking and Other Variable Characters of Anophelinae with Special Reference to Systematic and Phylogenetic Grouping of Species. S. R. Christophers.
5 Study of Posterior Nuclear Forms of Trypanosoma Rhodesiense in Rats. B. Blacklock.
6 Animal Trypanosomiasis in Lado (Western Mongalla) and Notes on Tsetse Fly Traps and on Alleged Immune Breed of Cattle in Southern Kordofan. A. Balfour.
7 Sanitation on Panama Canal Zone, Trinidad and British Guiana. D. Thomson.
8 *Cultivation of One Generation of Benign Tertian Malarial Parasites (Plasmodium Vivax) in Vitro, By Bass' Method. J. G. Thomson and D. Thomson.
9 *Fulminating Cerebrospinal Meningitis in Jamaica. H. H. Scott.

3. **New Mosquito-Proof and Storm-Proof House for Tropics.**—The house described by Mayer is constructed almost entirely of steel; wood-work is reduced to a minimum, and, where its use is unavoidable, is especially treated to withstand the attacks of insects, especially white ants. The house is built on a plinth of concrete and has a floor and a low wall of similar material. Their surfaces are cement-rendered. The walls are continuous with a steel framing, filled in completely with mosquito netting made of a specially woven composite material

proved to be stronger and more durable than any other. This netting is sandwiched between perforated metal sheets, which prevent bulging and render entry impossible, except by the spring doors at each end of the lobby-entrances. The roof is covered with non-conducting fibro-cement slates and is ventilated by means of louvre windows at each end. It is completely shut off from the room below by an asbestos ceiling. There are no walls or partitions within the mosquito proofing, so that whatever breeze there may be, blows straight through the house from one side to the other. Should this wind be too cold or too strong, as for instance during storms, it can be cut off at will, by shutters which are provided all round the house and which are capable of closing the whole of it. These are manipulated from within by turning a handle, and can be made either to come down from above, or to move upward from below. The division of the interior of the house is left to the occupant, the ideal being the minimum required for privacy, and it is suggested that by the use of sun blinds, screens and curtains, the open character of the house may be preserved, but permanent brick or stone walls may be built if desired. It is possible to make the house of any number of stories, and to build it on piles if desired.

8. **Cultivation of Benign Tertian Malarial Parasites by Bass' Method.**—The authors claim that the benign tertian malarial parasite is capable of being cultivated up to the stage of sporulation, for at least one generation. In their cultures the growth of the parasite from young rings to sporulating forms took place more rapidly than in the blood of the patient. The cultures of benign tertian differed from those of malignant tertian in that there was no tendency to clumping of the parasites in the former, either before or during sporulation. This difference appears to the authors to explain in a satisfactory manner why only young forms of malignant tertian are found in the peripheral blood, as the clumping tendency of the larger forms causes them to be arrested in the finer capillaries of the internal organs. It also explains the tendency to pernicious symptoms, such as coma, in malignant tertian malaria. All stages of the benign tertian parasite are found in the peripheral blood, and there are seldom pernicious symptoms, because there is no tendency to clumping. Heavily pigmented, compact parasites were found in their cultures of benign tertian on the fifth day. On the eighth day these had grown larger, and their appearance suggested the development of gametocytes. The malignant tertian parasite (*P. falciparum*) is capable of producing, in maximum segmentation, thirty-two spores. On the other hand, benign tertian (*P. vivax*) produces, as a rule, during maximum segmentation, sixteen spores; sometimes more may be produced, but the number is never thirty-two. The pigment in *P. falciparum* collects into a definite, circular and very compact mass early in the growth of the parasite. On the other hand, during the growth of *P. vivax* the pigment remains scattered in definite granules throughout the body of the parasite, till just before segmentation, when it collects into a loose mass of granules in the center of the full-grown plasmodium.

9. **Fulminating Cerebrospinal Meningitis in Jamaica.**—In several cases of illness with sudden onset in apparently healthy subjects, terminating fatally in a high percentage of those attacked, Scott isolated a Gram-negative diplococcus from the spinal fluid. This organism gives the morphologic and cultural characters of Weichselbaum's *Diplococcus intracellularis meningitidis*, except that in galactose it does not always give a definite reaction, the medium in some instances not being affected. The maltose and dextrose, however, are always typically acted on. These cases exhibit in some instances a symptom-complex which has for years been spoken of in Jamaica as "vomiting sickness." The disease breaks out in localized epidemic form in various parts of the island during cold weather, that is, from about the middle of December to the end of February or beginning of March. The disease occurs at other times as sporadic cases, but apparently does not spread extensively. It is a curious thing that practically all the cases are of the hyperacute variety, either recovering in a few days, or dying in a few hours. One rarely sees the subacute cases during the epidemic times, and never, so far as Scott is aware, the chronic ones, unless some of the natives one meets with who are chronically deaf, or have seriously defective vision, or who suffer from fits, are instances of cerebrospinal meningitis with permanent sequelae. Of this there is no proof. In two instances a spirochete-like body, or long curving bacillus, has been seen in the smears made directly from the fluid obtained by lumbar puncture. What part, if any, this takes in producing the symptoms Scott had no means of discovering. The disease is very rare among the white population; Scott has known of only three instances so far during the past year. Possibly this is due in part to better hygienic conditions, less crowding, and so forth, but not entirely, because he has not personally met with the condition once among the East Indian population, where overcrowding and bad hygiene are nearly, if not quite, as marked as in the case of the native. For this, also, Scott offers no explanation at present, though it may be noted that the food supply of the East Indian is usually better than that of the West Indian.

British Journal of Children's Diseases, London

April, X, No. 112, pp. 145-192

10 *Jaundice in Childhood: Report of Cases. F. J. Poynton.
11 *Fatal Case of Wide-Spread Ulceration Limited to Small Intestine. S. Phillips.
12 Hysteric Phobia in Child; Principles of Treatment. T. A. Williams.
13 *Congenital Renal and Ureteral Anomaly. J. D. Rolleston.

10. **Jaundice in Childhood.**—Poynton reports four cases of prolonged jaundice dating from birth and in nature apparently obstructive. The first patient, a female, aged 3 months, had been jaundiced from birth. The conjunctival mucous membrane and skin were yellow, the motions white and undigested, the urine very dark, the liver was large but not hard, the spleen was not felt, the umbilicus was healthy, the temperature generally subnormal. There was no evidence of congenital syphilis and the one other child was very healthy. From time to time a little bile appeared in the motions and at these times the skin became less yellow. The child had not been breast-fed. Gradually, by about the twelfth month, the jaundice disappeared and complete recovery followed. The second patient was a male, aged 4 weeks, a first child of healthy parents. No cause was apparent for the jaundice, which appeared on the third day and had persisted. This child was definitely jaundiced, the stools were large, white and undigested, the urine contained bile-salts, the liver was large but not tender or hard. Here again it had been noticed that some bile appeared in the motions occasionally and that then the color improved. Two months later the motions were mustard-colored and the liver distinctly smaller. At about the seventh month the jaundice had disappeared and the liver had still further diminished. This child was circumcised later, and died of spreading gangrene. He was never breast-fed, but given cow's milk. The third patient, a male infant, aged 4 weeks, showed jaundice in the first week. Here, again, the jaundice was persistent, the liver was enlarged but the spleen was not felt, the motions were white and undigested. Again, also, some bile was occasionally seen in the stools. Slowly, after many weeks, the jaundice disappeared, the liver became smaller, and in this case complete recovery resulted. The child was never breast-fed, but given at first cow's milk. The fourth patient was an adult of some 30 years. She had been born with jaundice, and from early days an enlarged spleen was noticed. In addition to this there was congenital morbus cordis of slight degree and congenital absence of the left upper extremity below the middle of the arm. This patient was always a yellowish color, and had from time to time severe attacks of intense jaundice with dead-white stools and an urine almost black with bile-pigment. These attacks lasted about ten to fourteen days. Curiously obstinate ulcers of considerable size broke out from time to time on the legs above the ankles and required much care in their treatment. In this case the spleen was greatly enlarged, and during the attacks of acute jaundice the liver also enlarged very considerably. This patient had passed through about fifty acute attacks of obstructive jaundice. Attention is directed by Poynton to the

fact that in view of the other congenital defects, there might have existed a congenital maldevelopment or hypoplasia of the common bile-duct. Three additional cases of syphilitic origin are also reported.

11. **Wide-Spread Ulceration Limited to Small Intestine.**—A boy had an attack of rheumatism at the age of 7, a second attack after scarlet fever when he was aged 9, and a third attack when he was aged 10. Two months later he began to suffer from acute abdominal pain and vomited everything he took. By medical advice he was kept in bed and given only hot water, and after forty-eight hours the vomiting ceased, but occasional paroxysms of abdominal pain continued; the bowels were opened daily, and no blood was ever passed. The boy's parents and five sisters and brothers were all healthy. The abdomen was tumid, and there was deep tenderness in the umbilical region; no other sign of disease in any other organ could be discovered. Seven days after admission (January 25) he had slight recurrence of pain in the abdomen, but the temperature never rose above 99.2 F. He improved in general health and left the hospital on February 8; after that, while at home, he had occasional attacks of abdominal pain, and on May 15, he got headache, and the pain in the abdomen became very severe, especially on the left side. There was no vomiting or diarrhea. He was readmitted into hospital on May 18, in a collapsed condition, with feeble pulse and clammy sweats; the abdomen was tumid as before, but much more tender. On the following day the abdomen was opened in the middle line. The appendix was swollen and there were a good many adhesions in its neighborhood, which were freed, and the appendix was removed. The small intestine was noticed to be intensely gorged with blood. The patient died on the following day.

At the post-mortem the peritoneum was found to contain a little blood-stained fluid. The coils of the small intestine were a little distended, and were slightly glued together and to the abdominal wall by a small amount of recent plastic lymph; the small intestine for about the middle third was extremely congested on the outer surface and of a deep red color, and there was a considerable amount of hemorrhage into the mesentery under the peritoneal reflection; the congestion faded gradually away toward its upper limits. On the outer wall of the congested part were two or three small rounded areas of light yellow color, with sharply defined margin; they had almost the appearance of infarcts; the peritoneum was not thickened over them. There was no thrombosis of the mesenteric vessels. On opening the small intestine its inner surface was seen to be intensely congested, and over large irregular areas was entirely denuded of mucous membrane, the submucous and muscular coats being exposed. The yellow areas noted above appeared as shallow ulcers, but except for this there were no solitary ulcers; above and below the congestion and ulceration gradually became less marked until they finally gave place to apparently healthy bowel about 3 inches above the cecum. The large intestine was quite healthy. The other organs were healthy except for some old pleuritic and slight pericardial adhesions.

13. **Congenital Renal and Ureteral Anomaly.**—The anomaly described by Rolleston was found at the necropsy of a boy, aged 12 years, who died from generalized paralysis following very severe faucial and nasal diphtheria on the forty-seventh day of disease. The amount of urine passed during the first eighteen days passed from 21 ounces to 37 ounces in the twenty-four hours. Albumin was present in the urine from the third to the thirty-eighth day. The necropsy, which was held on the day after death, showed hypostatic congestion of both lungs, thickening of the left ventricle and dilatation of the right ventricle. Examination of the abdominal cavity showed that the right kidney was absent, together with the corresponding renal artery, vein and suprarenal. The right ureter, however, was present, and extended upward from the bladder to the mid-lumbar region, where it ended blindly. The left kidney was situated in the usual position and was considerably enlarged. There was partial duplication of the ureter, the upper branch, 4 in. long, supplying the upper third, and the lower branch, 3½ in. long, supplying the lower two-thirds of the kidney. The branches united 3 in. from the bladder at the brim of the pelvis. On opening the bladder the right and left ureteral orifices were seen to be of the same size. The patency of the right ureter was proved by the readiness with which a platinum culture needle could be passed from the vesical orifice to the blind upper extremity. There were no congenital abnormalities of the genital, circulatory or other systems.

British Medical Journal, London

April 5, I, No. 2727, pp. 697-752

14 *Cancer of Tongue. C. Ryall.
15 Enucleation of Tonsils and Removal of Adenoids Under Gas Anesthesia. J. F. O'Malley.
16 Case of Polycythemia with Plethora, and Splenomegaly (Vaquez' Disease). H. L. Watson-Wemyss.
17 Tuberculoma of Larynx. W. Sanderson.
18 Teratoma of Unusual Size Affecting Testicle of Horse. H. Blakeway.
19 *Distilled Water vs. Salvarsan in Treatment of Syphilis. G. A. Stephens.
20 Genital Functions of Ductless Glands in Female. W. B. Bell.

14. **Cancer of Tongue.**—Ryall claims that the thorough treatment of syphilis would well-nigh abolish cancer of the tongue. He emphasizes the importance of wide removal in definite epithelioma; microscopic examination of suspicious lesions; the avoidance of tobacco by those who have syphilitic lesions of the tongue; and radical treatment of all syphilitics till serologically they are pronounced free from signs of the disease.

19. **Distilled Water in Syphilis.**—The treatment for syphilis recommended by Stephens consists of the hypodermic injection of 6 to 10 c.c. of distilled water every three days for two to four weeks. He was induced to give this treatment a trial as the result of some research work on surface tension. He claims that the addition of distilled water to blood corpuscles so affects the osmotic pressure as to cause a passage of water into the cell, which gets larger and eventually scatters its contents. In disease the rapid catalytic changes and the rapid production of antibodies are interdependent, and if one can induce these marked catalytic changes with or without a vaccine, one stands the chance of setting free a number of very useful and remedial antibodies. In such a chronic disease as cancer it seemed to Stephens that the process was allowed to continue owing to the absence of sufficient antibodies, or at least a sufficient number to act together at the same time, and if one could set free any catalytic antibodies in sufficient numbers one might get a good result. Knowing of no vaccine to induce this antibody effect, it occurred to him that the injection of distilled water might so affect the surface tension as to bring about the osmotic effects. The marked effect produced by the injections of distilled water made him feel certain that in any similar disease of less malignancy their effect ought to be still better, so with that object he undertook the treatment of syphilitic patients. The Wassermann reaction is, in his opinion nothing but a very roundabout way of determining the surface tension at which hemolysis occurs, and if, he says, this view is correct, the time ought not to be far distant when a simpler and more scientific method is introduced, and one that is not open to so many pitfalls. He cites six cases.

Glasgow Medical Journal

April, LXXIX, No. 4, pp. 241-319

21 Scleroderma with Subcutaneous Calcareous Deposits. W. K. Hunter.
22 Myopia: Review of Five Hundred Cases, with Special Reference to Etiology. J. A. Wilson.

Journal of Laryngology, Rhinology and Otology, London

April, XXVIII, No. 4, pp. 169-224

23 Sir Felix Semon: His Work and Its Influence on Laryngology. P. McBride.
24 Scarlet Red as Dressing After Radical Mastoid Operation, Based on Observations of Fifteen Cases. T. W. E. Ross.
25 *Three Fatal Cases of Pneumococcal Infection of Throat. A. R. Tweedie.

25. **Pneumococcal Infection of Throat.**—Two of his patients Tweedie regards as representing the asthenic, and the third the sthenic type of the disease; the former were "chronic" conditions almost to the last, whereas the latter ran a comparatively

rapid course from its commencement up to the end. All three cases were characterized by their absolute lack of response to every kind of general or local treatment employed, and no cause or connection—apart from the presence of the pneumococcus in the throat—could be ascertained. This organism was present in large numbers in pure culture on the swabs or sputa. There was no apparent ulceration of, or membranous deposit on, the mucous membrane concerned, which was, however, intensely injected and edematous at the commencement of the illness. The main focus of the local lesion in each case appeared to the naked eye as an indolent, necrotic, more or less localized, sloughing area quite distinct from any pathologic state usually associated with the term "abscess." Up till the last few days of the disease there was no impairment of appetite or malaise corresponding with the progressive weakness, raised temperature or severity of the disease generally.

Journal of Tropical Medicine and Hygiene, London

April 1, XVI, No. 7, pp. 97-104

26 Porocephaliasis in Man. L. W. Sambon.
27 Tropical Diseases Observed in Republic of Colombia. J. M. Santamaria.
28 Broncho-Oidiosis. A. Castellani.

Practitioner, London

April, XC, No. 4, pp. 645-776

29 Automatism. G. H. Savage.
30 "Responsibility"—In Regard to Certain Forms of Unsoundness of Mind. R. Jones.
31 *Chronic Cystitis and Retention of Urine, Treatment by Drainage and Its Beneficial Effect on Damaged Kidneys. D. Newman.
32 Modern Urinary Surgery: Points for Practitioner. H. Curtis.
33 Recent Work in Genito-Urinary Surgery. J. W. T. Walker.
34 Modification of Spengler's Rapid Precipitation Method for Estimation of Approximate Immunity Against Tuberculosis. W. H. Fearis.
35 Literature on Heart Disease. C. W. Chapman.
36 Recent Work on Dental Surgery. J. G. Turner.
37 Diagnosis of Neurasthenia. I. G. Cobb.
38 Heredity, Eugenics and Falling Birth-Rate. G. P. Young.
39 *Influenza with Repeated Rigors. W. H. M. Telling and R. G. Hann.
40 Three Cases of Acute Abdomen. W. B. Russell, F. L. Wood and W. E. Barrett.

31. **Chronic Cystitis.**—Obstruction to the free escape of urine, involving increased tension in the kidneys, Newman says, may lead to the development of symptoms—polyuria, albuminuria and toxemia—resembling those of interstitial nephritis, which form serious complications of the bladder trouble, and, if not relieved, ultimately lead to toxemia. Suprapubic cystotomy, he believes, is the best method of draining. By free continuous drainage of the bladder these symptoms diminish and ultimately disappear, and the patient is placed in a more favorable condition for operation should further treatment be required. Free continuous drainage is also followed by diminution in the size of the kidneys and contraction of the ureters, so that the orifices regain their normal valvular action. In chronic cystitis, free drainage by suprapubic cystotomy is the surest method of giving relief to the symptoms or of curing the disease.

39. **Influenza with Repeated Rigors.**—The patient whose case is reported by Telling and Hann was a healthy man of 21, and had been engaged in a chemical laboratory for some time in experimental work on para-nitraniline. He was in the best of health until the onset, with absolute suddenness, of his illness at a supper party, on Nov. 10, 1912; he then had a slight rigor, felt sick and was compelled to return home and go to bed. In the night, he had a longer and more severe rigor with a temperature of 103 F. On the following morning he dressed, but another rigor sent him back to bed; temperature 103 F., pulse 110, regular and remarkably dicrotic. He complained of feeling ill, of nausea, and of pain behind the eyes. He vomited once only (bile) Skin very dry and hot. Bowels normal, without aperient. Respirations 20, noticeable for the frequent sighing; no other irregularity; no cough, no sore throat. Pupils not dilated, normal. He was mentally alert. There was nothing abnormal to be detected on examination of the chest or abdomen. In the evening, he had a rigor with a temperature of 103 F.

The progress was as follows: November 12.—Had two rigors; temperature remained steady at 103-104 F. Condition as before; complained much of nausea, but did not vomit. Bowels normal. Urine alkaline, smelling strongly of ammonia, not offensive; contained albumin in small quantity, much mucus, but no blood, pus, or casts. November 13.—Temperature 104 and 103 F. No rigor. Bowels normal. Spleen enlarged and easily felt for the first time. November 14.—Temperature 103 and 101 F. One rigor. November 15.—No rigor. November 18.—Temperature 105 and 100 F. Two severe rigors in the morning (one lasting 20 minutes) and one (the twelfth and last) in the evening. No attempt was made to recover the influenza bacillus as, with the unexpected and abrupt termination on the following day, the diagnosis was only made retrospectively.

Annales de Médecine et Chirurgie Infantiles, Paris

April 1, XVII, No. 7, pp. 201-236

41 Hemophilic Arthritis Simulating Osteomyelitis. (Deux cas d'hémophilie familiale.) H. Méry, H. Salin and A. Wilborts.

Journal d'Urologie, Paris

March, XXX, No. 3, pp. 289-424

42 *The Constant Ratio Between the Urea in the Blood and in the Urine. (Valeur clinique et interprétation de la constante uréo-sécrétoire.) F. Legueu.
43 Cystoscopy with Calculi in the Bladder. G. Marion and J. Ferron.
44 *Early Diagnosis of Renal Tuberculosis. (De la précocité du diagnostic et de l'intervention dans la tuberculose rénale.) L. Bazy.
45 *Improved Technic for Prostatectomy. (Un procédé pour l'extirpation large du cancer de la prostate.) G. Gayet, Champel and Fayol.
46 Device for Immobilizing the Cystoscope. (Boule amovible pouvant se fixer extemporanément sur n'importe quelle pince cystoscopique. Pour servir à l'immobilisation des cystoscopes.) G. Marion.
47 Individual Prophylaxis of Gonorrhea. (Prophylaxie de la blennorragie chez l'homme et chez la femme.) J. Janet.

42. **The Constant Ratio Between the Urea in the Blood and in the Urine.**—Legueu states that he has applied 800 times Ambard's formula for the *constante uréo-sécrétoire*, and he regards it as a most remarkable aid in determining the functional capacity of the kidneys, especially in cases with enlargement of the prostate. In this case it is more exact and reliable than all other functional tests. It warns against operating in certain cases in which, with other tests, the findings would indicate that an operation was practicable, and yet the patients would have died after it. On the other hand, its variations in a case show when the auspicious moment has arrived for operative measures with the least danger. It is impossible to give any rules for its use, as each individual case must be considered separately, weighing all the circumstances. The formula is based on the law of the constant ratio between the urea in the blood and the square root of the urea excreted in the urine, with due regard to the weight, as the weight of the kidneys is generally proportional to the weight of the body. Also with due regard to the concentration of the urine, accepting 25 per thousand as the usual unit. (The formula was described in The Journal, 1912, lix, 229 and 818.) The bladder is emptied completely with the catheter; this urine is thrown away. Then the urine is drawn again an hour later for examination; then 40 c.c. of blood is drawn by cupping or from a vein. The normal constant ratio is about 0.07; when this drops to 0.069 or 0.056 there is either a defect in the technic, or nephritis with a tendency to dropsy should be suspected. He discusses in detail the information to be derived, especially in regard to whether one or both of the kidneys is affected and whether the disturbances noted are of a transient or permanent nature. In many cases everything seemed to indicate that conditions forbade nephrectomy, but the ratio proving constantly under 0.11 testified that both kidneys could not be affected and consequently that the diseased one could be safely removed. The findings proved a safe guide in every instance of this kind; only two patients suggested a query, as he describes in detail. The formula has revealed an unexpected intensity of disturbance in the elimination of urea following an operation. It has shown that the majority of patients who succumbed after prostatectomy died from their kidneys. Another lesson taught

by the formula is the remarkable benefit from dieting and local measures in improving the condition of the kidneys before a contemplated operation. The formula is instructive only when it is associated with other findings, especially in regard to the elements which characterize dropsy-producing nephritis, namely, albumin and the elimination of water. With these restrictions, Legueu lauds the Ambard formula as belonging in the first rank of methods for exploring the functioning of the kidneys. He adds that no other method can even approach it in precision and the wealth of information it imparts. He cites a large number of clinical cases to show the exact technic and interpretation of the findings.

44. **Early Diagnosis in Renal Tuberculosis.**—Bazy thinks that the case he reports is about the earliest diagnosed of any on record. The patient was a young woman who began to urinate three or four times a night; after a few months she noticed blood in the urine. The urine seemed absolutely normal except that it had a dull look; it had lost its brilliancy. This P. Bazy has long taught is a sign of impending tuberculosis of the urinary apparatus. On these three symptoms, and learning that at the time of the hematuria there had been pain in the right side, Bazy advised catheterization of the ureters which revealed tubercle bacilli, and the kidney was removed. The diagnosis was confirmed by discovery of a minute tuberculous ulceration, the rest of the kidney sound.

45. **Cancer of the Prostate.**—Gayet, Campel and Fayol give an illustrated description of the technic they have applied in two cases with excellent results. It is a combination of several methods, rendering the operation more complete.

Presse Médicale, Paris

March 15, XXI, No. 22, pp. 205-220

48 *Cholecystectomy from the Back Forward. (De la cholécystectomie d'arrière en avant.) A. Gosset and E. Desmarest.
49 Pneumothorax in the Tuberculous. L. Bernard.
50 *Diagnosis of Aneurysm of the Aorta. M. Letulle.

March 26, No. 25, pp. 241-248

51 *Adenoma in Intestines Simulating Stenosis of the Pylorus. (Adénomes végétants de la partie supérieure de l'intestin grêle simulant la sténose pylorique.) H. Hartman.
52 *Subcutaneous Injection of Oxygen in Treatment of Permanently Weak Pulse. A. Martinet and F. Heckel.
53 *Chronic Arthritis and Tuberculous Rheumatism. A. Poncet.

March 29, No. 26, pp. 249-260

54 Dosage of Strychnin. P. Troisfontaines.
55 *Sphygmomanometer for Determining Persisting Pulse in Asphyxia Neonatorum. (L'oscillomètre de Pachon. Critère de la persistance de la circulation dans la mort apparente du nouveau-né.) P. Balard.

48. **Technic for Cholecystectomy.**—Gosset and Desmarest give an illustrated description of their method of removing the gallbladder commencing at the back of the organ and working forward, as it is often done in this country but does not seem to have been adopted in France. All their thirty-two patients treated by this technic promptly recovered; the operation was comparatively short and simple, and all danger of hemorrhage was more certainly obviated. The details of these experiences are given in full.

50. **Diagnosis of Aneurysm of the Aorta.**—Letulle remarks that roentgenoscopy has revealed an astonishingly large number of cases of aneurysm of the aorta causing no appreciable symptoms. During the last three years he has applied it systematically in every case of chronic disease in his service and has thus discovered absolutely latent aneurysm of the aorta in twenty-seven cases. The shadow cast by the aneurysm moves with the pulse and it is generally accepted that a shadow at this point showing no pulsation must be a tumor of some other nature. He gives an illustrated description of a case which demonstrates that this assumption is not always tenable. The patient was a woman of 42, previously healthy, with negative Wassermann, who recently developed symptoms of a tumor in the mediastinum which cast a shadow blending with the fifth to eighth dorsal vertebrae. Roentgenoscopy by three experts showed apparently that the tumor was independent of the aorta and did not pulsate. They declared that it consequently could not be an arterial aneurysm. These findings suggested the possibility of removing the tumor, but the incision revealed a large aneurysm at the origin of the descending aorta, adherent to the vertebrae. The woman died a few days later and necropsy showed that the old clots in the aneurysm had packed and obliterated it to such an extent as to prevent the pulse impulse from being perceived. The vertebrae were ulcerated and formed the posterior wall of the aneurysm pocket.

51. **Adenoma in Intestine Simulating Stenosis of the Pylorus.**—Hartmann reports two cases in which the vegetating adenomas had developed in the small intestine and were accompanied by temporary invagination, tardy pain and retention of the stomach contents. One patient was a woman of 49, the other a boy of 15; both were speedily cured by removal of the tumor through a lengthwise incision in the intestine, a simple and easy operation.

52. **Subcutaneous Injection of Oxygen for Weak Pulse.**—Martinet and Heckel make a practice of injecting from 300 to 750 c.c. of oxygen into the subcutaneous tissue once or twice a week in patients with a permanent tendency to weakness of the pulse. They give the history of this method of treatment, and a number of charts showing the effect on the blood-pressure, viscosity of the blood and hemoglobin percentage. They give illustrations of the double vial apparatus used, and state that they have not hesitated to inject up to several liters a day without mishap. Ramond has injected up to 12 liters in one day. They take from five to twenty minutes for injection of half a liter of oxygen, and comment on the benefit derived in conditions of hyposphyxia, especially in acute and chronic tuberculosis, in pneumonia, acute endocarditis, toxic and mechanical dyspnea, and all conditions in which there is an acute or chronic tendency to asphyxia. Nothing else is known to compare with it, they declare, in its action in reducing the viscosity of the blood.

53. **Tuberculous Rheumatism.**—Poncet here continues his arguments on the tuberculous nature of chronic arthritis in a large proportion of cases. The discovery of a tuberculous process elsewhere or the development of one shortly afterward confirms the tuberculous origin of the joint process. In many cases he was at a loss to confirm the tuberculous nature of the joint trouble until after a few months the tuberculosis pulled off its mask and supplied the proof which he had been vainly seeking before, as for example, in a case of arthritis of the elbow with ankylosis which had finally healed but three months afterward tuberculous pleurisy had developed. The practical import of his arguments is that it is safer to treat a chronic joint affection as if it were known positively to be of a tuberculous nature; such patients should be treated as for tuberculosis and not for the gouty tendency, the arthritic diathesis. They should be encouraged to eat heartily and live out-of-doors. Cod liver oil should alternate with arsenic, phosphates and iodids, and he insists that patients with tuberculous rheumatism should keep up this line of treatment all their life, just as syphilitics should return to specific treatment from time to time. Local treatment should not be omitted and the most effective is exposures to the direct rays of the sun. For twenty years he has been teaching, "The sun is the most effective agent for revulsion and sedation;" very few patients fail to benefit by the heliotherapy. As a rule, patients with inflammatory tuberculosis have a peculiar plasticity of the tissues which permits unusually fine results from operative measures. Although the processes may heal spontaneously and especially under heliotherapy, yet operative treatment may be necessary in case of ankylosis. Resection with early mobilization give brilliant and durable results.

55. **The Sphygmomanometer in Asphyxia Neonatorum.**—Balard calls attention to the importance of the information to be derived from a particularly sensitive sphygmomanometer—such as *Pachon's oscillometer*—to determine the persistence of the heart-beat when a new-born child is apparently asphyxiated beyond resuscitation. He gives four cases to illustrate the advantage of the information thus derived, the instrument showing the gradual increase in the force of the heart-beat. One infant showed no sign of heart action when born, neither to the eye, the ear or the touch for thirty minutes. The first

inspiration did not occur for an hour, but the oscillometer revealed that the heart was alive and it was finally revived although the child succumbed not long afterward to the effects of the obstetric meningeal hemorrhage.

Revue de Médecine, Paris

February, XXXIII, No. 2, pp. 81-160

56 Symptoms from Loss of Fluids in Diarrhea with Vomiting. (Syndrome de deshydratation aigue par diarrhée cholériforme et vomissements incoercibles d'origine toxique.) M. Labbé.

57 *Autoserotherapy of Cirrhosis with Ascites. (Phénomènes critiques de la résorption de l'ascite cirrhotique.) G. Vitry and A. Sézary.

58 Elimination of Chlorids in Simple Polyuria and Influence of Sodium Bicarbonate. J. Goldberg and R. Hertz.

59 Bacillary Elephantiasis. A. Sézary and G. Salès.

60 *Diabetes Merely a Sign of Intoxication with Chlorids. (Vues nouvelles sur le diabète.) A. Rodriguez.

57. **Absorption of Ascitic Fluid in a Case Treated by Autoserotherapy.**—Vitry and Sézary describe a case of advanced ascites from cirrhosis of the liver. The ascites had persisted for six months. They treated the patient with subcutaneous injections every other day of 10 c.c. of his own ascitic fluid. On the third day there was a marked increase in the urinary output and a beginning absorption of the fluid which continued until the eleventh day, when injections had to be stopped for want of fluid. Tables are given showing the output and analysis of the urine. As the amount increased, its concentration in sodium chlorid also increased. The acidity was diminished by the elimination of alkaline fluid. The nitrogen content was practically unchanged. They think the good effect was undoubtedly to be attributed to the autoserotherapy.

60. **New Views of Diabetes.**—Rodriguez thinks that one of the most important factors in the causation of diabetes is an excess of chlorids in the diet. The essential point in treatment, therefore, is not the avoidance of carbohydrates, but the giving of a salt-free diet, whether it be nitrogenous or carbohydrate. Mossé advocates a potato diet to furnish more than 350 gm of glucose. The beneficial effect is due to the fact that the salts of potassium contained in the potato bring about the elimination of the retained sodium chlorid as potassium chlorid. Rodriguez describes the cases of six patients treated successfully by him on a salt-free diet moderately rich in carbohydrates.

Revue Pratique d'Obstétrique et de Gynécologie, Paris

March, XXI, No. 3, pp. 65-92

61 Why the Fetal Head Rotates. (Considérations sur les dispositions anatomiques qui rendent nécessaire la rotation intrapelvienne de la tête du foetus.) Berthaut.

62 *Sterility after Cesarean Section. (La fécondité de la femme après l'opération césarienne conservatrice.) M. Plauchu.

63 Treatment of Placenta Praevia. (Le traitement des hémorragies de la puerpuéralité, doit-il être chirurgical ou obstétrical?) G. Fleux.

62. **Cesarean Section Likely to Entail Sterility.**—Plauchu states that 75 per cent. of twenty women on whom he performed conservative cesarean section never had another pregnancy. The same proportion of women sterile thereafter was reported by Bar in 1912 in his experience with 135 operations of the kind, even although his list includes sixteen cases in which the same operation was done twice, six in which it was done three times, and one in which the cesarean section was done four times.

Beiträge zur klinischen Chirurgie, Tübingen

February, LXXXIII, No. 1, pp. 1-223

64 Phlegmonous Inflammation in Small Intestine. (Die phlegmonöse Enteritis im Duodenum und Anfangteil des Jejunums.) G. Frising and E. Sjövall.

65 Treatment of Perforated Gastric and Duodenal Ulcer. L. Simon.

66 Foreign Bodies in Intestines. (Ueber Fremdkörper des Darmes und Wurmfortsatzes.) O. Retzlaff.

67 Suture of Brachial and Femoral Arteries. (Fall von partieller Naht der Arteria brachialis und Fall von zirkulärer Naht der Arteria femoralis.) H. Fowelin.

68 Stab Wound of Heart. (Stichverletzung des Pericards und der rechten Pleura.) H. Fowelin.

69 Operative Treatment plus Aspiration of Pleural Empyema. W. Lawrow.

70 The Clinical Value of Scarlet Red and Amidoazotoluol. N. Dobrowolskaja.

71 Extrarenal Hypernephroma. (Ueber einen extrarenalen Nebennierentumor.) H. Harttung.

72 Hard Tumefaction of the Thyroid After Partial Thyroidectomy. (Fall von Riedel'scher Struma, nach Strumektomie aufgetreten.) H. Simon.

73 Histology of the Thyroid in Exophthalmic Goiter. (Das histologische Bild der Basedowstruma in seinem Verhältnis zum klinischen Bilde der Basedow'schen Krankheit.) J. Oehler.

74 Intravenous Anesthesia. (Erfahrungen mit den intravenösen Aether- und Isopral-Aether-Narkosen.) W. Graef.

75 Danger of Infection from Torn Gloves. (Handschuhverletzungen und Händedesinfektion.) F. Ahlfeld.

Berliner klinische Wochenschrift

March 24, L, No. 12, pp. 525-572

76 Exophthalmic Goiter. (Behandlung der Basedow'schen Krankheit.) A. Rubino.

77 *Importance of Bovine Tubercle Bacilli. (Bedeutung der Rinderbacillen für den Menschen.) A. Weber.

78 **The Stasis Reaction in Arteriosclerosis.* (Die Stauungsreaktion bei Arteriosklerose.) C. Hertzell.

79 The High Frequency Electric Current in Therapeutics. (Die praktische Bedeutung der Hochfrequenzbehandlung—d'Arsonvalisation—insbes. bei inneren und Nervenkrankheiten.) E. Tobias.

80 *Metals in Treatment of Cancer.* (Die Wirkung von Schwermetallen auf die bösartigen Tiergeschwülste.) C. Lewin.

81 *Two Fatalities after Salvarsan. (Status thymolymphaticus und Salvarsan.) W. Rindfleisch.

82 The Cell Inclusions in Scarlet Fever. (Zur Bedeutung der Döhle'schen Zelleneinschlüsse.) J. C. Schippers, C. de Lange and H. Bongartz.

83 The Non-Medullated Superficial Nerves. (Färbung der marklosen Hautnerven beim Menschen.) K. Kreibich.

84 Surgery of the Gall-Bladder. S. Adler.

85 Athletics and Stimulants. (Sport und Reizmittel.) F. Hueppe. Commenced in No. 11.

77. ***Bovine Tubercle Bacilli.***—Weber's remarks were summarized in the Berlin Letter in The Journal, April 12, p. 1167.

78. **The Stasis Reaction.**—Hertzell sequestrates the blood in the legs and one arm of a reclining patient and then examines the blood-pressure in the other arm. With a normal vascular system, the blood-pressure in the free arm rises on an average about 5 mm. mercury, which he calls the "stasis reaction." With arteriosclerosis, however, the blood-pressure runs up to 60 mm. or over. The amount of the increase depends on the extent of the arteriosclerosis and its predominant localization. This stasis reaction is a sign that the vascular system is more or less pathologic, and this warns against hydrotherapeutic measures, light baths, etc., unless applied with extreme caution.

81. **Danger from Neosalvarsan in the Lymphatic Diathesis.**—One patient was a woman of 50, the other a robust boy of 12 at the second day of scarlet fever. The positive Wassermann reaction in the first case suggested a probable syphilitic origin for the recurring liver affection. Death followed in both cases so soon after the intravenous infusion of neosalvarsan that a causal connection seemed beyond question. Necropsy in both cases revealed the status thymo-lymphaticus in a pronounced form. The cases teach the necessity for caution in giving salvarsan or neosalvarsan when there is reason to suspect this condition. At necropsy after salvarsan fatalities it should be sought for with special care. As exophthalmic goiter is so often accompanied by persisting thymus, it is unsafe to give salvarsan in this affection, Rindfleisch insists.

Deutsches Archiv für klinische Medizin, Leipsic

CIX, Nos. 5-6, pp. 417-620. Last indexed, March 1, p. 704

86 Experimental Polyuria with Subacute Nephritis. G. Baehr (New York).

87 **Origin of Idiopathic Pernicious Anemia.* H. Lüdke and L. Fejes.

88 *Relations Between Permanently High Blood-Pressure and Kidney Disease. (Beziehungen zwischen anhaltender Blutdrucksteigerung und Nierenerkrankung.) J. Fischer.

89 Influence of Electric Stimuli on Gastric Motility and Secretion. (Einfluss elektrischer Reize auf Magenperistaltik und -Sekretion beim Menschen.) A. Weil.

90 Sphygmobolometry Technic and Findings. (Sphygmobolometrische Untersuchungen an Gesunden und Kranken mittels des Sahli'schen sphygmobolographischen Verfahrens.) L. Lipowetzky. (Bemerkungen zu dem verbesserten und vereinfachten Sphygmobolometer.) T. Christen. (Erwiderung.) Sahli.

91 Quantitative Blood-Tests. (Blutmengebestimmungen nach v. Behring und andere quantitative Untersuchungen der Blutbestandteile.) H. Kämmerer and A. Waldmann.
92 The Bound Chlorin in the Gastric Juice, especially with Gastric Cancer. (*Das fest gebundene* Chlor im Magensaft, speziell bei Magencarcinom.) G. Grund.
93 The Sugar in the Blood in Diabetes. (Verhalten des Blutzuckers und die klinische Bedeutung der *Blutzuckerbestimmung* beim *Diabetes mellitus.*) H. Tachau.
94 *Tumors Caused by Diphtheria Bacillus. J. E. Müller.
95 The Negative Pressure in the Thorax. H. v. Wyss.

87. Etiology of Idiopathic Pernicious Anemia.—Lüdke and Fejes have produced in various species of animals clinical conditions and pathological findings corresponding closely to those of pernicious anemia in the human being. They injected subcutaneously and intravenously solutions in alcohol or ether of the toxins of different intestinal bacteria, colon, typhoid, typhus, dysentery, etc. These toxins were thermostatic and actively hemolytic. The virulence of the bacteria was greater from diseased than from healthy intestines, and virulence was increased by growth on inflamed intestinal surfaces. No explanation is as yet found for the fact that these bacterial toxins produce pernicious anemia only in exceptional cases.

88. Relations Between High Blood-Pressure and Kidney Disease.—Five hundred and fifty patients with continuous high blood-pressure were examined. In 62 per cent. of those with blood-pressure above 140, there were signs of pronounced kidney disease, and in 80 per cent. of those with pressure above 160, of 42 examined post-mortem every one showed anatomical changes indicating progressive kidney disease, even those in which there had been no clinical evidence of it and congested kidney or idiopathic dilatation of the heart had been diagnosed.

94. Unusual Diphtheritic Affections.—Müller describes the cases of two children, brother and sister, brought to his clinic. The girl had a tumor on the left labium majus extending to the inguinal region. For eight days the child had complained of sore throat and was admitted with diagnosis of diphtheria. Her brother was also admitted with diphtheria, and coincident with the appearance of the sore throat a swelling had appeared at the root of the nose. Both children died and microscopic examination showed numerous diphtheria bacilli in the tumors. Deutschländer has collected forty-eight cases of similar diphtheritic tumors from the literature, 14 per cent. of which proved fatal. Müller further describes a case of his own and one of Günther's in which there were swollen, necrotic areas in the large intestine containing diphtheria bacilli. In such cases the bacilli were demonstrated in the feces.

Deutsche medizinische Wochenschrift, Berlin

March 20, XXXIX, No. 12, pp. 537-584

96 *Treatment of Convulsions in Young Children. (Behandlung der Krämpfe im frühen Kindesalter.) M. Thiemich.
97 *Vascular and Nervous Disease in Syphilitics. (Zur Frage der "Parasyphilis.") S. Schoenborn and W. Cuntz.
98 Cholesterin in the Blood in Various Diseases. (Untersuchungen über den *Cholesteringehalt* des menschlichen Blutes bei verschiedenen inneren Erkrankungen.) Bacmeister and Henes.
99 *The Adrenals and the Metabolism of Fat.* (Nebenniere und Fettstoffwechsel.) M. Landau.
100 Gold Preparations in Treatment of Tuberculosis. (Zur Chemotherapie der Tuberkulose mit Gold.) A. Feldt.
101 *Etiology of Rachitis and the Metabolism of Calcium. (Aetiologie der Rachitis und der Kalkstoffwechsel.) W. Dibbelt and Diesing.
102 Roentgenoscopy of Gastric Ulcer. (Ergebnisse der Röntgenuntersuchung beim Ulcus ventriculi.) E. Schlesinger.
103 Omentum Cuff for Perforated Gastric and Duodenal Ulcer. (Weitere Erfahrungen mit der Verwendung der Netzmanschette, insbes. bei der Behandlung des perforierten Magen- und Duodenalgeschwürs.) A. Neumann.
104 *Injury *from Injection of Oil Into* the Peritoneum. (Die intraperitoneale Oelanwendung.) Momburg.
105 Congenital Scoliosis. J. Lewy.
106 *Treatment of Fractured Jaw.* (Interdentalschiene oder extraoraler Verband bei Behandlung von Kieferbrüchen.) A. Frenzel.

96. Convulsions in Children.—Thiemich refers only to the convulsions which occur in the absence of *meningitis* or special intoxication. Although they can be called idiopathic, yet there are always accompanying signs of spasmophilia, that is, abnormal irritability of the peripheral motor and sensory nerves to mechanical and electric stimuli. The easiest sign to elicit when this spasmophilia is suspected in a latent form, is the facialis phenomenon, but the response to galvanic electricity applied to the median nerve in the bend of the elbow is more delicate and more reliable. Treatment of this eclampsia infantum or laryngospasm has passed through a phase based on an assumed gastro-intestinal origin for the spasm until it was recognized that the phenomena observed did not fit into the frame of reflex convulsions. Then came Kassowitz' theory that the trouble was merely the nervous manifestations of rachitis, and hence that it should be treated the same as rachitis. His theory was evidently wrong but the treatment he based on it has proved extremely effectual although for other reasons than those he advanced. This treatment is with phosphorus and cod-liver oil; neither alone is effectual, but the combination is proving extremely useful in both rachitis and spasmophilia, as has frequently been anounced in these columns. If the child has been overfed with cow's milk, the amount should be restricted; Thiemich reduces it to considerably less than a tenth of the body weight per day. The danger from this form of alimentary disturbance is greater the younger the child; a child over 2 can do without milk for several weeks without serious injury. With repeated convulsions, Thiemich gives chloral in large doses, generally by the rectum. An infant of 6 months or younger can be given a rectal enema of 0.5 gm. chloral in a 2 per cent. warm solution, pressing the buttocks together so that the fluid is retained for ten minutes. This usually arrests the convulsion and the child then sleeps or rests for six or ten hours. The dose can be even as high as 0.75 gm. of the chloral hydrate. The child must be carefully protected against chilling and overheating while it is under the influence of the chloral. He has never had to keep up the drug for more than two or three days or four at most, giving once or twice a day the above dose. If the attacks are not arrested by this, the case is of such extreme severity that nothing can help. Bromids have never been of any use in his experience, but the phosphorus-cod liver oil treatment should always be started at once, whether the case is severe enough to warrant the chloral or not, and kept up as the most effectual measure and in some cases sufficient alone, without dieting or other drug. The proportion is 0.01 gm. phosphorus in 100 gm. cod liver oil; substitutes for cod liver oil are absolutely worthless, he adds. The necessity for fresh air for the child must be emphasized, especially as the majority of cases occur in the late winter and early spring months.

97. Vascular and Nervous Disease in Syphilitics.—Schoenborn reviews the cases of parasyphilis in his service during the last four years, including sixty-five with heart or vascular affections; ten of these patients had at the same time tabes, two taboparalysis, one paralysis and eight nephritis. In the fifty-two cases in which the Wassermann reaction was investigated, a positive reaction was obtained in forty-six. The interval between infection and the cardiovascular disease ranged from five to forty-one years. In thirteen other cases the liver was the seat of the parasyphilis (including two from the cardiovascular group). There were also four other cases of kidney disease in addition to the eight counted in the cardiovascular group; there were also two cases of paroxysmal hemoglobinuria. In all these cases a causal connection with syphilis seemed to be beyond question. He protests against the term "parasyphilis" or "metasyphilis" for these affections, declaring that they are manifestations of syphilis pure and simple and that any other name for them is superfluous. This assumption is confirmed by recent discovery of spirochetes near the brain cortex in cases of progressive paralysis. He rejects further Danlos' suggestion that tabes and paresis are due to organic impregnation with antibodies after the original syphilis has long healed.

101. Etiology of Rachitis.—Dibbelt reiterates that disturbance in the calcium metabolism is the essential factor in rachitis; the metabolism of lime is peculiarly unstable and is affected by various injurious influences. Diesing suggests that the lack of sunlight in the northern countries is one or the essential factor, and he explains the physiologic bases for this assumption.

104. **Prophylactic Injection of Oil Into the Peritoneum.**—Momburg has made prophylactic intraperitoneal injections of oil in sixteen cases and this experience impels him to warn most decidedly against the procedure. At most he would permit application of oil directly to the point of the operation and its immediate vicinity alone, carefully removing all excess of the oil and not attempting this except with the stronger patients and only when the peritoneum has been soiled with stomach or intestinal content. He has been much impressed, on the other hand, with the advantages of application of superheated air to the abdomen after a laparotomy. He applies it three hours after the operation, the temperature not over 80 or 90 C, and only for half an hour, repeating this three times a day during the first days after the operation. The dressing is turned back and only the lowest layers of gauze left over the wound. He has applied this to 108 patients and has not had a death from perforation since he has made a practice of it. The patients say that the hot air is soothing and reduces the pain; it also starts peristalsis, and for this reason he used it also in his forty-three hernia cases.

Deutsche Zeitschrift für Chirurgie, Leipsic

February, CXXI, Nos. 3-4, pp. 199-392

107 *Traumatic Epilepsy After Gunshot Wounds of the Head. (Zur Kenntnis der traumatischen Epilepsie nach Kopfverletzungen im Japanisch-russischen Kriege.) T. Eguchi.
108 Subcutaneous Emphysema after Laparotomies. E. Gergö.
109 *Present Status of Roentgenotherapy of Surgical Tuberculosis. (Wirkung der Röntgenstrahlen bei chirurgischer Tuberkulose.) H. Neu.
110 Cyst, Encircling the Pancreas. (Ueber eine peripankreatische zwischen den Blättern des Mesocolon transversum entstandene Cyste.) E. A. Delfino.
111 *Fibrous or Ossified Plaques in the Penis. (Induratio penis plastica.) M. zur Verth and K. Scheele.
112 Histology of Egyptian Bladder Stones. E. Pfister.
113 *Treatment of Spontaneous Gangrene by Measures to Reduce the Viscosity of the Blood. G. Koga.
114 Sarcoma of Upper Jaw. (Interessanter Fall von Oberkiefersarkom.) E. Schottländer.

107. **Traumatic Epilepsy After Gunshot Wounds of the Head.**—Eguchi states that traumatic epilepsy developed in about 3 per cent. of the head injuries in his charge during the campaign in Manchuria. It generally does not manifest itself until after the scar has healed, but the scars are very sensitive to contact. When the defect in the bone was closed only with soft parts, pulsation could be seen in the brain; conditions thus were similar to those which Kocher has proposed in treatment of epilepsy, namely, a soft-part flap for a safety valve. These experiences show that this method has no apparent basis. Drugs alone were unable to dispel the epilepsy but they proved useful in connection with an operation.

109. **Roentgenotherapy in Surgical Tuberculosis.**—Neu lauds the efficacy of Roentgen exposures in treatment of tuberculous lymph-nodes and processes in bones and joints, in laryngeal tuberculosis and in tuberculous peritonitis. His conclusions from study of the literature are that the experiences of the sixteen years since the introduction of roentgenotherapy show a long array of favorable results from various clinics, so that the method has passed beyond the tentative stage into that of well established achievement and it deserves wider appreciation and more extensive application.

111. **Hard Patches in the Penis.**—Three personal cases are described in detail and ninety-seven from the literature are tabulated. The possible factors mentioned include gout (13), diabetes (12), inflammation of the joints (15), trauma (6), arteriosclerosis (15), syphilis (13), and gonorrhea (21), but in a very large number no attempt is made to suggest a possible cause. Excision of the hard body is the best treatment.

113. **Causal Treatment of Spontaneous Gangrene.**—Koga remarks that spontaneous gangrene of the extremities from sclerosis of blood-vessels seems to occur more frequently in the young in Japan than in Europe. Ito is inclined to attribute this to the preponderant vegetable diet. Koga discovered in a number of these cases that the viscosity of the blood was very high. By infusion of saline or Ringer's solution the gangrene was very favorably influenced as the blood became more fluid. He never noticed any benefit from potassium iodid in this line. In the thirteen cases reported the patients were men between 24 and 48, free from syphilis and glycosuria. As the viscosity of the blood became reduced under the infusion, the swelling went down, the cyanosis grew less, a line of demarcation formed, ulcerations cleaned up and healed over and the previously imperceptible peripheral arteries began to pulsate, while the pains subsided and the patients were able to sleep at night and ceased to be troubled by intermittent claudication. There has been no recurrence of the gangrene for two years in one case and five months in the latest. The progress of the gangrene compelled amputation later in only one case. Koga insists that the viscosity of the blood should be supervised and the infusions resumed as soon as it is seen to be going above normal.

Jahrbuch für Kinderheilkunde, Berlin

March, LXXVII, No. 3, pp. 243-382

115 Permeability of Gastro-Intestinal Tract for Alien Albumin in Sick Infants. (Die Durchlässigkeit des Magendarmkanals für heterologes Eiweiss bei ernährungsgestörten Säuglingen.) F. Lust. Concluded in No. 4.
116 Rachitis in the Newly Born. (Ueber Rachitis. III.) M. Kassowitz.
117 *Whey in Treatment of Dysenteric Enteritis in Infants. (Anwendung der Molketherapie bei ruhrartigen Darmkatarrhen und ihre Erfolge.) E. A. Frank. Commenced in No. 2.

117. **Whey in Treatment of Diarrhea in Infants.**—Frank describes seventy cases of diarrhea in infants at the Göttingen children's hospital, in which the children were treated with whey. Thirty-seven of these had simple mucous stools, the others bloody and mucopurulent ones. The results were excellent; the character of the stools improved rapidly, the children became brighter and more cheerful, and did not lose in weight except the first day. The whey is prepared by adding a teaspoonful of extract of rennet to one-fourth liter of milk and setting it in boiling water. As soon as it curdles it is strained through a cloth. The treatment is begun by giving the child a teaspoonful of castor oil and flushing out the colon. Children under 2 years are given nothing but tea for twenty-four hours; the older ones are given a half cup of gruel the first evening and the next morning. If they have been fed on infants' foods or other improper nourishment and have no appetite, or vomit, the stomach is filled with warm water introduced through a Nélaton catheter. This stops vomiting, supplies necessary moisture and arouses the appetite. About 50 gm. of the whey and 50 gm. of gruel are then given, increasing to 60 or to 75 gm. of whey and 100 of gruel are given. The stools begin to improve almost immediately and in mild cases by the third to the fifth day the substitution of milk for the whey may be commenced. In more severe cases it is better to wait till the fifth to the eighth day. The substitution must be carried out gradually so that by the twelfth to the fourteenth day the child is getting 400 gm. milk, 400 gm. gruel and 200 gm. gruel and meat broth. The child should not be kept on pure whey treatment more than eight days or it will begin to run down. But in treatment of dysenteric diarrhea in infants it supplies the most easily assimilated nourishment, with plenty of salts which prevent the child's falling off rapidly in weight, while it permits gradual resumption of the ordinary food, so that Frank does not hesitate to extol it as the most certain and the simplest method of tiding the child past the danger stage without its suffering from hunger.

Medizinische Klinik, Berlin

March 23, IX, No. 12, pp. 441-484

118 *Duodenal Ulcer. S. Kreuzfuchs.
119 Necessity for Early Appendicectomy. (Zur Förderung der Frühoperation bei Perityphlitis.) Wagner.
120 Symposium on Preparation of Field of Operation. (Vorbereitung des Operationsfeldes.) W. Körte, T. Kocher, H. Schloffer and others.
121 *Thyroid Implants. (Transplantation von Schilddrüse in die Milz und das Knochenmark.) W. Kotzenberg.
122 Household Remedies for Accidents. (Volksheilmittel und Unfallheilkunde.) M. Mayer. Commenced in No. 11.
123 Tumor Growths in Cold-Blooded Animals. W. Carl.

118. **Duodenal Ulcer.**—Kreuzfuchs found twenty-eight cases with a typical history and typical Roentgen findings among 2,595 patients with internal affections at the Charité in Vienna last year. The diagnosis based on the triad: case history, hyperacidity and typical Roentgen findings, proved correct in every case in which operative treatment was applied. He discusses this material from various standpoints. It is characteristic of the pains with duodenal ulcer that they may wake the patient in the night, generally about 2 a. m. The patients say, "When I eat, the pain goes away; the pains come when I begin to get hungry." Many learn to carry a cracker in their pocket or keep some food beside their bed. Exclusively fluid foods bring the pains earlier and they last longer than with mixed food. The stomach expels its contents unusually early with duodenal ulcer. Another important finding which we owe to roentgenoscopy is the discovery that the tardy pain is due to spasm of the pylorus elicited from the duodenal side of the pylorus. This explains why unilateral exclusion of the pylorus puts an end at once to the pains. Kreuzfuchs advocates unconditionally Eiselsberg's technic for this. He insists on an operation when there is hemorrhage but otherwise only when the patients long for relief after failure of internal measures. He remarks that it is astonishing how a small but ever recurring disturbance can bring the most robust person finally to despair. These duodenal ulcer patients drift into the class of neurasthenics, and he urges careful investigation in every case of neurasthenia as to gastric hemorrhage having ever occurred. He has long been converted to the idea that neuroses, especially neuroses of the stomach, are merely the result of some unrecognized organic trouble. He urges internists to be more systematic and persevering in their internal treatment, and then, if this fails, to call in the surgeon.

121. **Thyroid Implants.**—Kotzenberg reports the cases of two children with congenital myxedema who showed no improvement under thyroid treatment but who displayed marked benefit following grafting of a piece of the mother's thyroid into spleen or tibia, after a preliminary operation to prepare the pocket for the graft.

Münchener medizinische Wochenschrift

March 25, LX, No. 12, pp. 625-680

124 *Therapeutic Paralysis of the Diaphragm in Pulmonary Disease. (Beeinflussung von Lungenerkrankungen durch künstliche Lähmung des Zwerchfells—Phrenikotomie.) F. Sauerbruch.
125 Experimental Research on Inheritance of Tendency to Tumor Growths. (Zur Frage der Vererbung der Anlage zur Geschwulstentwicklung.) B. Morpurgo and A. Donati.
126 *Measles Pneumonia. (Einfluss hygienischer Verhältnisse auf die Morbidität und Mortalität der Masernpneumonie.) L. Maier.
127 Experiences with Mixed Anesthesia. (Erfahrungen mit dem Skopolamindämmerschlaf in Verbindung mit Morphium, Pantopon and Narkophin.) H. Reichel.
128 *Beriberi in Europe. (Ist die Beriberi eine auch in Europa heimische Krankheit?) W. Schüffner.
129 Testing Vision of School Children. (Ueber Augenuntersuchungen bei Schulkindern.) Gastpar.
130 Technic for Systematic Insufflation of Air as First Aid in Asphyxia. (Die erste Hilfe bei Asphyxien mittels direkter Einblasung von Luft.) Kuhn.
131 Personal Prophylaxis of Syphilis. (Zur persönlichen Prophylaxe der Syphilis.) F. Bruck.
132 Resection of Stomach. (Ulcus callosum ventriculi totale—Schrumpfmagen. Bemerkungen über den dauernden Verlust des Magens sowie über die Technik der Magenresektion.) F. Sasse.
133 *Psychology of Blunders in Bibliography. (Zu der Psychologie der falschen Literaturangaben.) H. Berger.

124. **Induced Paralysis of the Diaphragm in Pulmonary Disease.**—Sauerbruch states that on account of Schepelmann's experimental research on surgery of the lungs (summarized in The Journal, April 26, abstr. 64, page 1333) he feels inclined to report his own research in this line although it is rather premature for clinical deductions. He has severed the phrenic nerve on one side in five cases for the purpose of favorably modifying a tuberculous process in the lung, rebellious to internal measures. The interval since is too short to determine the ultimate outcome, but this experience has confirmed the ease and simplicity of phrenicotomy. The patients were all able to be up in two or three days, and there were no disturbances on the part of the heart and respiration, not even the acceleration of the respiration noticed after injuries of the phrenic nerve. In all the cases the cough was improved and the expectoration reduced. He states that Stürtz proposed in 1911 to treat severe chronic unilateral processes in the inferior lobe by means of severing the phrenic nerve. The results of his experimental research have been confirmed by Sauerbruch's clinical experience. After severing the nerve the diaphragm rises and ceases to participate in the respiration; only small excursions occur, and they are paradoxic, as the diaphragm is sucked up in inspiration while it is depressed in expiration, thus moving directly opposite to the sound half. Bardenheuer on these premises severed the phrenic nerve on one side in a case of bronchiectasia in the inferior lobe and some improvement was realized. Sauerbruch insists that the immobilization of the lung by phrenicotomy must be supplemented by resection of the chest wall to permit the retraction of the lung tissue, as this is of the utmost importance for the healing of a tuberculous process in the superior lobe. The technic of phrenicotomy is simple: The patient lies in a semireclining position, the head held far over on the sound side, stretching the muscles of the neck. The skin is then incised for 10 cm. along the posterior margin of the sternocleidomastoid muscle to the clavicle. The muscle is pushed forward and the omohyoid drawn down, thus exposing the phrenic nerve. It is about 3 mm. in diameter, and is readily isolated and severed. As the nerve is isolated, the patient says he feels a dull pain in the "lung."

126. **Measles Pneumonia.**—Maier discusses the reason why pneumonia in measles has become so much less frequent in Pfaundler's service in the last few years and the mortality so much less. He ascribes it to the rebuilding, which materially improved conditions in regard to hygiene.

128. **Beriberi in Europe.**—Schüffner writes from Sumatra to emphasize anew the way in which beriberi has lost its epidemic character. It occurs sporadically, like polyneuritis in Europe, and he declares that in every case of polyneuritis, in any country, the conditions in regard to an alimentary origin should be carefully investigated. Polyneuritis occurring after typhoid is generally regarded as the work of the typhoid virus, but Schüffner suggests the possibility that the one-sided diet after a wasting disease may be responsible for it. His experience in the West Indies has indicated that rudimentary forms are unexpectedly frequent in these conditions; formication in the hands and feet, numbness, weakness in the legs and palpitations. As polyneuritis requires six or eight weeks to develop, the diet by the end of this time has become more abundant and the typical fully developed affection is thus warded off, the neuritis healing without ever having revealed its true nature. He declares further that the pseudotabes of diabetics belongs also in this category, and is explained by the restriction of carbohydrates. The same danger is liable with pregnant and nursing women whose diet is liable to be influenced by whims and prejudices. In the old text-books it was taught that nursing women should wean the baby if formication developed, with cramps in the arms and neck, pains in the shoulders, syncopes and palpitations—all symptoms common in beriberi. The partial starvation of the body is felt in the milk, and the infant may suffer from beriberi. It is possible that many forms of nutritional or developmental disturbances in infants may be rudimentary forms of beriberi. The ascending neuritis of hard drinkers may be due to the perverted and often one-sided appetite in such cases. The neuritis heals under institutional treatment, and the abstention from alcohol gets the credit for it when in reality it is the result of the more rational diet. The afebrile forms of Landry's paralysis have also a close resemblance to severe beriberi. Thirty-two years ago Leyden described in Europe the clinical picture of polyneuritis. This threw light on oriental beriberi. Then came Eykman's discovery of the connection with rice feeding, and now the polyneuritis of the orient returns to Europe as the better known disease, polyneuritis, no longer with a question but with the

demand to be regarded as beriberi, to wit, a disturbance of alimentary origin to be influenced by the diet.

133. **Psychology of Blunders in Bibliography.**—Berger is at the head of a bureau of bibliography, and he bewails the errors that creep into bibliographic references even with the greatest care, and warns of a few blunders that may be avoided: especially the misspelling of names that sound alike, such as Beier and Payr; Meier and Mayer; the indiscriminate use of "weekly," "journal," "monthly" and "review," confusing "medical" and "clinical;" transposing the two last figures in the date, 1901 instead of 1910, or one of the letters in a roman numeral. Such blunders, he says, are his daily bread. He thinks there is a malicious genie that mixes up the bibliographic references, the older brother of the proof-error devil: The smallest little error overlooked by the proof-reader may beget a host of big blunders. As an instance of this he mentions an article by Vorderbrügge which was cited in another journal as Vonderbrügge. The next citation gave it as v. d. Brügge. Who would think of looking in the index under B for Vorderbrügge? He adds that the *Wiener med. Wochenschrift*, 1909, p. 90, cited two articles from The Journal of the American Medical Association of February, 1907: Feb. 1, 1907, p. 2204, and Feb. 2, 1907, p. 1245. That journals do not usually number the pages backward or publish two issues in two days does not seem to have attracted attention, possibly because America is known as the land of unlimited possibilities. He continues that the explanation is simple, one of the articles cited having appeared in the second of the two volumes of The Journal in 1907. He remarks that The Journal is generally bound abroad in four volumes for the year, designated as Vol. I, 1 and 2 and Vol. II, 1 and 2. Such blunders are particularly liable when an author prefers to give the figure for the month rather than specify its name.

[This system of dividing the issues for the year into Vols. I and II for each year is followed by the *British Medical Journal* and the *Lancet*, but The Journal of the American Medical Association has always been careful to refrain from this system, as it invites confusion.

The Journal volumes have been numbered consecutively from the first volume in 1883 down to the present date. If the uniform style of the Surgeon-General's catalogue were adopted abroad—as is being done more and more in America—the blunders in bibliography would certainly become less numerous. For instance, if Berger should call attention to these remarks, he would credit them to The Journal of the American Medical Association, 1913, lx, 1406, and no mistake could possibly creep in if the proof-reader followed "copy."—Ed.]

Wiener klinische Wochenschrift, Vienna

March 27, XXVI, No. 13, pp. 485-520

134 Latent "Lymphoid" Stage of Tubercle Bacilli in Apparently Sound Tissues. (Das Stadium "lymphoider" Latenz im Infektionsgange bei der Tuberkulose.) J. Bartel.
135 Epinephrin plus Hypophysis Extract in Therapeutics. (Die Kombination von Adrenalin und Hypophysin und deren klinische Verwendbarkeit.) B. A. Houssay.
136 Metabolism of Fat. (Ueber den Fettstoffwechsel.) W. Gessner.
137 Pancreas Calculi. (Ueber Pankreassteine.) K. Glaessner.
138 Morbid Dread. (Ueber Angstzustände.) H. Kahane.
139 Pelvic Disease and Psychiatry. (Die Lehre Bossis und die Gynäkologie.) A. Mayer.

Zentralblatt für Chirurgie, Leipsic

March 29, XL, No. 13, pp. 457-504

140 Cancer of the Rectum. (Modifikation der kombinierten Operationsmethode bei Cancer recti.) K. Dahlgren.
141 To Ensure Movable Stump After Amputation of the Arm. (Zur Technik des beweglichen Stumpfes bei Amputationen.) Z. Slawinski.
142 Technic for Blocking the Sciatic Nerve. (Zur Anästhesie des N. ischiadicus.) P. Babitzki.
143 Bolus Alba in Sterilization of the Hands. Günther.

Zentralblatt für Gynäkologie, Leipsic

March 29, XXXVII, No. 13, pp. 449-480

144 The Electrocardiogram During Pregnancy. (Das Elektrokardiogram bei Schwangeren.) C. Rübner.
145 Uterus Bicornis Responsible for Chronic Transverse Presentation. C. U. von Klein.
146 Behavior of Uterus in and after Third Stage of Labor. (Kontrolle des Verhaltens der Gebärmutter in der Nachgeburtsperiode und in den ersten drei Stunden nach derselben.) A. Solowij.

Brazil-Medico, Rio de Janeiro

February 1, XXVII, No. 5, pp. 41-50

147 *Tartar Emetic in Treatment of Venereal Ulcerating Granuloma. (Sobre o tratamento do "granuloma venereum" pelo tartaro emetico.) H. de B. Aragão and G. Vianna.
148 *Tropical Dysphagia. (Consideraçoes sobre o mal de engasgo.) U. Paranhos.

February 8, No. 6, pp. 51-60

149 Ovary Grafting. (Do enverto ovariano em Cirurgia.) C. Werneck.
150 The Influence of the Atmosphere on the General Health. (Influencia sanitaria general da atmosphera.) B. Barreto. Commenced in last volume.

February 15, No. 7, pp. 61-70

151 Treponema Found in Tropical Sore. (Sobre um novo treponema encontrado em ulceras—Treponema minimum nov. spec.) H. de B. Aragão and G. Vianna.

February 22, No. 8, pp. 71-80

152 *Treatment of Chronic Gonorrheal Urethritis. (A antisepsia e a urethrite chronica blenorrhagica.) A. Pereira.

147. **Venereal Granuloma.**—Aragão and Vianna report three cases and state that vaccine therapy failed to show any benefit and they then gave tartar emetic in intravenous injection. This was followed by the rapid healing of the lesion. They used a 1 per thousand solution, injecting from 60 to 120 c.c. on alternate days, averaging ten injections of 100 c.c. each. The disturbances are aggravated by the injection at first, the lesion itches, but the bacteria disappear and the part soon heals over. The bacterium they found constantly in their five cases they designate as kalymmatobacterium granulomae. This granuloma does not seem to be favorably influenced by mercury, salvarsan or caustics but it sometimes yields to roentgenotherapy. This was not tried in the three cases reported here.

148. **Endemic Tropical Dysphagia—"Mal de Engasgo."**—Paranhos describes an affection endemic in certain parts of Brazil which is characterized by difficulty in swallowing, so constantly recurring that the individuals die of starvation. It seems to have receded before improving hygiene so that now it is encountered only in the remoter districts. The dysphagia occurs spasmodically; in the intervals all is apparently normal. The trouble seems to be a spasm of the cardia. The prognosis is grave as the attacks finally recur so often that the patient is unable to get enough nourishment to sustain life. Treatment to date has been merely symptomatic. Some writers regard the trouble as due to worms in the esophagus; others accept it as a special form of Chagas' trypanosomiasis, but Paranhos is inclined to think that the flour used almost exclusively in the regions where the *mal de engasgo* is prevalent is the causal factor. This flour is made from the manioc, the cassava, of the euphorbia family. The root contains a juice which Boutron and Henry say is identical with hydrocyanic acid. Ingestion of this juice induces motor disturbances, dysphagia, convulsions, weakness of the heart action and arrest of the respiration. Roasting the root to make the flour expels all the juice, but when this is not properly done, this form of dysphagia is liable to follow. When other food is used no further cases develop.

152. **Treatment of Chronic Gonorrheal Urethritis.**—Pereira advocates as the only effectual treatment, repeated dilatation and superdilatation under the guidance of frequent urethroscopy. The intensity of the dilatation and the length of the intervals must depend on the reaction in the individual case. As a rule, antiseptic applications in the interim do no good and rather harm. They are useless except in the acute and prolonged recrudescences, to satisfy the impatience of the patient, or when these exacerbations threaten the joints. The aim then is to keep the infection within bounds in the predisposed territory until arsenic and other tonics and nourishment enhance the resisting powers and gain time until the radical cure by the dilatation sittings can be instituted. He gives in detail the reasons for these views.

Ugeskrift for Læger, Copenhagen

March 20, LXXV, No. 12, pp. 487-530

153 Attacks of Functional Vagoclonic Symptoms. (Om funktionelle hysteroide Anfald.) C. Heyerdahl.

The Journal of the
American Medical Association

Published Under the Auspices of the Board of Trustees

VOL. LX, NO. 19 CHICAGO, ILLINOIS MAY 10, 1913

SIMPLE DEVICES FOR EFFECTIVE ARTIFICIAL RESPIRATION IN EMERGENCIES *

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NEW YORK

In a preliminary note,[1] about a year ago, I described a simple method of artificial respiration which proved efficient in animals. The method consisted in driving air rhythmically by bellows through a tube which has been introduced into the pharynx. The plan of this method was based on the following considerations. Air under pressure in the pharynx has four outlets. It may escape by way of the nasopharynx through the nose. It may escape through the mouth. It may escape through the esophagus into the stomach. It may finally enter into the trachea and the lungs; when it enters there with sufficient force, it causes an inspiration. To obtain an efficient insufflation of air from the pharynx into the lungs, the other exits must be satisfactorily barricaded. In the method described under the name of pharyngeal insufflation the escape of air through the mouth was effectively reduced by pressure on the suprahyoid region. The elastic pharyngeal tube raised the soft palate and the uvula, and thus shut off the entrance into the nasopharynx. The entrance of air through the esophagus into the stomach would, besides the deviation of the air from the lungs, be an additional evil by the gastrecstasis and intestinal meteorism which it may cause. All these evils were effectively met in two ways: by introducing a tube into the stomach or by putting a weight on the abdomen. When these various precautions were taken, each insufflation through the pharyngeal tube drove air into the lungs with sufficient force which caused indeed an effective inspiration. The expirations occurred during the interruptions of the insufflation, the elasticity of the chest and of the abdominal viscera driving the air out again into the pharynx from where it escaped through the least resistant passage ways, which were now through the pharyngeal tube and alongside through the unobstructed part of the mouth.

The method thus described, which worked well in four species of animals (dogs, cats, rabbits and monkeys), has since been tried on living as well as on dead human beings. Here, however, the method failed to work. In human beings pressure on the suprahyoid region does not restrict effectively the free escape of air through the mouth; neither is the entrance into the nasopharynx sufficiently blocked by the pressure of the flexible pharyngeal tube. The air insufflated into the pharynx escapes freely through the mouth and nose and enters therefore into the lungs with too little force to overcome the resisting elasticity of the lungs and the thoracic walls and thus to cause an inspiration. In other words the simple arrangement which is so efficient a method of artificial respiration for animals proved to be unsatisfactory when applied to man because of the difference in the anatomic construction. I then set out to develop the method further so as to make it applicable to human beings. I believe that I have now attained that end. In the following I shall describe two methods which have caused effective respiration (that is, effective rhythmic entrance of air into the lungs) even in human cadavers stiff in rigor mortis or frozen stiff. I shall designate the respective methods of artificial respiration as the *pharyngeal* and the *mask device*. I shall describe the pharyngeal device first and in greater detail.

The pharyngeal tube to be used in human beings is made of metal. It measures transversely 38, and vertically 27, millimeters and is about 18 centimeters long. The lower (tongue) side is flat, the upper (palate) side is round. At the pharyngeal end the upper side is longer by about four centimeters than the tongue side; when the tube is inserted through the mouth into the pharynx, the end of the upper side has to reach the posterior wall of the pharynx, while the lower side may end somewhere between the radix of the tongue and the posterior wall of the pharynx. For an adult of medium size the dimensions of the tube are sufficient to fill out the entrance into the pharynx so as to prevent the escape of air through the mouth; it also blocks reliably the entrance into the nasopharynx. Of course, tubes of various dimensions may be had at hand, so as to fit the individual sizes. The outer end of the tube carries, in the first place, a hollow neck-like projection to connect the tube with the insufflation apparatus. It has, besides, a round hole, through which a large stomach tube may be introduced into the esophagus and the stomach, when necessary; this hole is usually kept closed by a movable plate.

The outer end of the pharyngeal tube is connected by means of a short heavy piece of rubber tubing with a little device which I designate as respiratory valve. It is a small tube about 10 centimeters long and 3 centimeters in diameter, which carries a valve inside and a ring outside. By means of that ring the valve may be moved from side to side. When it is moved to the right side, it connects the insufflating apparatus with the pharyngeal tube and air or oxygen is driven into the pharynx and the lungs. When the ring is moved to the left side, the current of air or oxygen is shut off; at the same time an opening is established through which the expired air may now readily escape. The respiratory valve may be conveniently held in the hand and the ring moved from side to side by the thumb. The ring moving the valve is not in the middle but near one end of that little device, the end which should be connected with the pharyngeal tube.

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[1] Meltzer, S. J.: Pharyngeal Insufflation, a Simple Method of Artificial Respiration, THE JOURNAL A. M. A., May 11, 1912.

The other end of the respiratory valve should be connected by means of strong rubber tubing with glass-blower foot-bellows which should be worked so as to give an approximately continuous current of air; or it may be connected with an oxygen tank. Between the respiratory valve and the bellows (or oxygen cylinder) a "safety-valve" should be interpolated in order that the air or oxygen should not be driven into the pharynx with too high pressure. The safety-valve may be of such a simple kind as I described in the recently appeared sixth volume of Keen's work on surgery for the intratracheal insufflation apparatus. It consists simply of a calibrated tube dipping in mercury. The pressure should be arranged for not less than 20 millimeters mercury, and may be even 25 millimeters; the pharyngeal system of insufflation will always permit an escape of some air through any of the exits.

Heavy weights to be placed on the abdomen, a broad belt to reinforce the pressure on the abdomen, and a large stomach tube, about 33 French, complete the outfit.

The pharyngeal insufflation apparatus for artificial respiration consists then of a metal pharyngeal tube, the respiratory valve, foot-bellows, or an oxygen tank and a safety-valve. In addition there should be on hand a tongue forceps, a stomach-tube, heavy weights and a belt. The procedure is as follows:

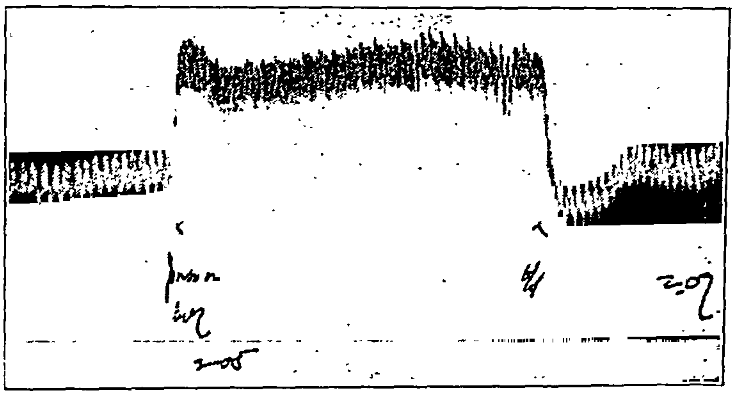

Fig. 1.—Blood-pressure tracing from an etherized dog which received an intravenous injection of sodium nitrite. Blood-pressure low, 44 millimeters; pressure on the abdomen brings up the blood-pressure to 70 millimeters mercury, and the pulse pressure is nearly doubled in size.

After a heavy weight is placed on the abdomen, the tongue should be pulled out by means of an appropriate forceps and the pharyngeal tube inserted into mouth and pharynx as far as it may go. For the sake of being in readiness, the respiratory valve should be kept attached to the pharyngeal tube. The free end of the respiratory valve should now be connected with the foot-bellows or the oxygen tank to either of which a safety-valve is attached. Now the oxygen tank should be opened, or the foot-bellows started working, while the respiratory valve is taken in the right hand and the ring moved by the thumb from side to side, keeping it for two or three seconds at each place. The same man who works the bellows with his foot may work at the same time the respiratory valve with his hand. When the ring rests at the right side, the air from the bellows or the oxygen from the tank is insufflated into the pharynx with a force of 20 millimeters of mercury and unavoidably enters the lungs, causing an inspiration. On account of the pressure on the abdomen the inspiration causes essentially distention of the thorax. When the ring is turned to the left the insufflation is cut off and the elastic recoil of the ribs and of the abdominal viscera causes an efficient expiration. The rubber tubing connecting the pharyngeal tube with the respiratory valve should be short, in order to cut off the dead space and during expiration eliminate carbon dioxid as much as possible. Rebreathing is surely undesirable. All tubing employed for connections should have thick walls to prevent kinking. The tongue should be kept pulled out in order to keep the epiglottis raised. After the pharyngeal tube is inserted the tongue may be kept in proper position by tying it (not too tight) to the tube; the forceps may be then taken off. The tying of the stretched tongue to the tube may even assist the latter in remaining in position.

The weight on the abdomen prevents the entrance of air in any considerable quantity into the stomach and the little which gets there escapes again when the insufflation is cut off; it never gets into the intestines. The pressure on the abdomen has still another significance. In patients with completely abolished respiration usually the blood-pressure is also very low and most of the blood may be accumulated in the abdominal viscera. The heart is then scantily filled, and not enough arterial blood is sent to peripheral organs. Under such circumstances a good pressure on the abdomen may raise the blood-pressure by even as much as 30 millimeters of mercury; the heart is filled more efficiently and sends more blood to the medulla oblongata, arousing there the activities of the respiratory and vasomotor centers. Figure 1 shows the effect of abdominal pressure on the blood-pressure.

For this reason I recommend to have a belt on hand to reinforce the pressure. With a belt alone not much success can be obtained. In cases of accidents, when it might happen that no suitable weight is at hand, the individual who handles the respiratory valve may sit down on the abdomen of the victim.

There might be conditions which do not permit the placing of weights on the abdomen; for instance, when a collapse occurs during a laparotomy. Under this circumstance a stomach-tube of a large diameter should be introduced through the esophagus into the stomach. The tube restricts to a sufficient degree the entrance of air into the stomach, and the air which enters there escapes readily through the tube. As stated before, in the anterior end of the pharyngeal tube is an opening for that purpose which is usually kept closed by a movable plate. A stomach-tube of a 33 French diameter fits exactly into this opening. I am of the opinion that it is preferable to have in every instance, even when pressure on the abdomen is exerted, also a tube in the stomach. Since the apparatus may have to be used in some emergency cases by laymen, however, the latter might be loath to handle a stomach-tube. And since the experiments have shown that very good results may be had with the pressure alone, I do not feel like insisting on the simultaneous use of the stomach-tube in all simple cases.

Besides the metal pharyngeal tube, I studied also the availability of the use of insufflation with the aid of a well-fitting mask. In this arrangement every other part is the same as in that for the pharyngeal tube, except that instead of introducing a tube into the pharynx, a mask is laid over mouth and nose and by bands tightly applied to the face. The mask has a hollow projection for the connection with the respiratory valve. I tested the mask method on various animals; as was previously found for the pharyngeal tube, it was established that also by means of the mask efficient artificial respiration can be carried on. With the aid of the mask method of artificial respiration, completely curarized (and anesthetized) animals were kept in an excellent condition for many hours. By this method, of course, some infectious matter may be driven into the trachea and perhaps cause infection; by this method, further, pressure is exerted on the middle ear; neither does the mask method allow the introduction of a stomach-tube. However, in dealing with emergency cases, with immediate danger to life, such considerations as the above mentioned are, comparatively speaking, mere trifles and can hardly be taken into account.

I have tested also the effectiveness of insufflation through metal pharyngeal tubes on animals; it is even more satisfactory than with elastic rubber tubes. It works promptly; the introduction gives less trouble and the tube remains in position for hours.

Both the pharyngeal and mask methods were tested also on human cadavers. Air entered into the lungs when insufflated by either of these methods, even if the dead bodies were in rigor or frozen stiff. In some cases unmistakable efficient respiratory movements of chest and abdomen were manifestly present. But even when the stiffness interfered with the free movements, auscultation proved conclusively the entrance of air into the lungs. Especially was this the case in a man who died under signs of pulmonary edema; râles could be heard all over the chest.

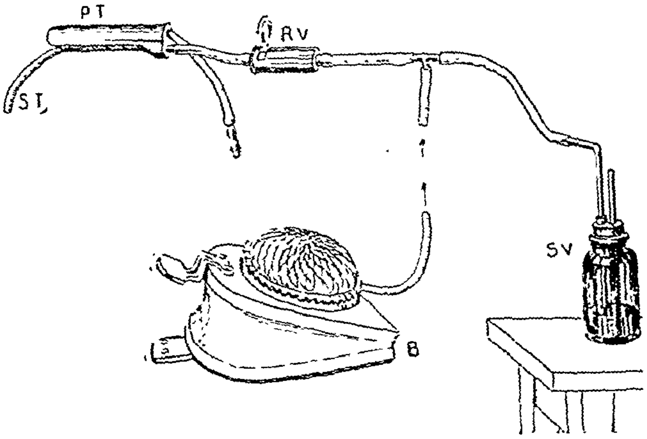

Fig. 2.—Arrangement of the pharyngeal device for artificial respiration. P. T., pharyngeal tube. R. V., respiratory valve. The ring turns the valve; turning to the right (facing the pharyngeal tube) brings an inspiration and to the left brings an expiration. B, foot-bellows. S. V., safety-valve. The bottle of the safety-valve should be shorter and have a wider diameter than the one in the figure; it is less likely to turn over. S. T., stomach-tube introduced through the opening in the pharyngeal tube.

The accompanying sketches illustrate these methods better than they can be described. In Figure 2, the pharyngeal tube (P. T.) is shown connected with the respiratory valve (R. V.), the foot-bellows (B) and the safety-valve (S. V.). A stomach-tube (S. T.) is pushed through the pharyngeal tube. In Figure 3 the mask (M.) is shown applied to the face. By means of an inflatable ring (Infl.) the mask is made air tight. There is a weight on the abdomen and a belt around it. The respiratory and safety valves are the same as in Figure 2. The bellows are here replaced by an oxygen cylinder.

In an emergency case no time should be lost on matters of less importance before starting the main act, and that is: The artificial respiration. When using the mask, for instance, no time should be lost in tying and fixing it properly; it should be pressed over mouth and face by the hand. After the insufflation is well on the way, some one may attend to the tying of the mask, the fixing of the tongue properly and the putting of the belt around the weight over the stomach. Regarding the fixing of the tongue, it may be, as stated before, tied to the pharyngeal tube, when using the same. When using the mask, the handle of the tongue forceps may be fixed to the victim's neck so as to keep the tongue stretched; or the tongue may be tied by means of tape or gauze bandage, pulled out well and the end of the tape or bandage tied around the victim's neck. It should be kept in mind that the pulling out of the tongue is an essential factor in any procedure for artificial respiration. In completely paralyzed individuals there is a tendency for the tongue to be kept somewhat firmly over the entrance into the larynx, caused, perhaps, by some final attempt at inspiration. I may say in passing that the demonstrations made with some machines for artificial respiration, for commercial and advertising purposes, on living and unanesthetized individuals, is entirely misleading and should not be taken as evidence of the efficiency of such machines in cases when individuals are unconscious and the respiratory mechanism paralyzed.

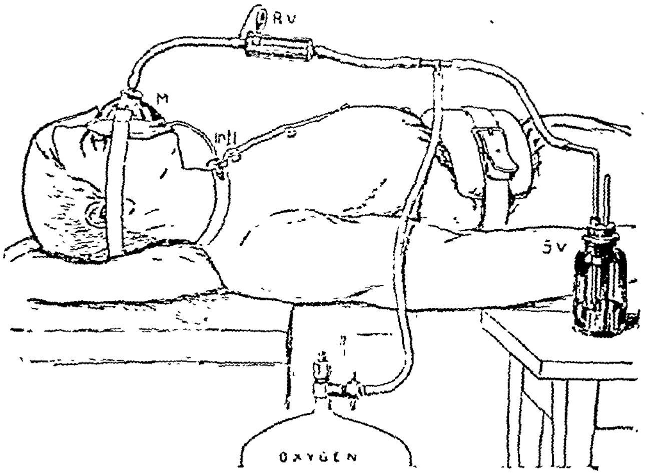

Fig. 3.—M., mask. Infl., tube for inflating the rubber ring around the rim of the mask. R. V., respiratory valve. S. V., safety-valve. An oxygen cylinder provides here the insufflation pressure. The figure shows also the weight on the abdomen and the belt around it.

It will be safer to have on hand a mask as well as a pharyngeal tube. When the latter should prove too small, the escape of the insufflated air alongside the tube may be remedied by tamponading the entrance into the pharynx around the tube with gauze. Besides, as I have indicated above, tubes of various sizes should be on hand.

The foot-bellows need not be large; smaller foot-bellows worked a little more rapidly give a sufficiently strong continuous current of air. The continuous air current is in the arrangement here described preferable to the interrupted current produced by hand-bellows; it is difficult to have the rhythm of the bellows coincide properly with the rhythm in the respiration produced by the respiratory valve; it may occur that the bellows are compressed just when the valve is closed, etc., and the result might be an irregular and inefficient artificial respiration.

It is evident that the methods of artificial respiration by devices here described can be readily combined with the Schäfer method of manual artificial respiration. The individual is then placed on his abdomen and the turning of the ring of the respiratory valve to the left has to coincide in time with the pressure on the lumbar muscles. Inspiration as well as expiration will thus be efficiently reinforced. While on the basis of my extensive experience I have reason to believe that the devices which are here described will answer the purpose satisfactorily in all cases in need of artificial respiration, it is safer to think of methods which are capable of improving the efficiency of the devices. Emergencies may arise of which we are unable to think now; factors of safety are designated by some students of mechanics as factors of ignorance.

The emergency bag should contain small foot-bellows, the safety-valve, the respiratory valve and the pharyngeal tube all readily connected by rubber tubing. Further, a mask, a tongue forceps, a strong belt or cords, a stomach-tube, a role of tape or one-inch gauze bandages and scissors. Weights might increase too much the weight of the bag. Bricks, stones or pieces of heavy metal, etc., may be had at any place. At any rate, a strong one-inch thick wooden board, 8 by 6 inches, placed on the abdomen and pressed down well by means of two belts (or bandages), one at each end, will do the same service as heavy weights and will be a good deal lighter to carry. Short pieces of glass tubes, T-tubes and pieces of rubber tubing should be carried in reserve. Such a bag need not weigh more than ten pounds.

Wherever oxygen can be had it should be used in preference to the air from the bellows. It should be remembered that according to Hill and Macleod, however, prolonged inhalation of oxygen may do harm to the lungs. When, therefore, prolonged artificial respiration is required, the use of air should be alternated with oxygen.

The devices for artificial respiration here described are certainly simple and inexpensive. Their efficiency has been tested to a much greater extent than any other device I know of. The possibility of keeping up the circulation in a normal condition for hours while the voluntary respiration is completely abolished (by curare) is certainly a rigid test, which has not been applied to any other method of artificial respiration except to that used in experimental laboratories with tracheotomy as a prerequisite, and, as I may add, to the method of intratracheal insufflation. The last mentioned device, which has now been tested in nearly two thousand cases on human beings, would be, in my opinion, indeed the most ideal method for artificial respiration. It has been used, to my knowledge, in two human cases of severe poisoning (morphin 15 grains subcutaneously combined with inhalation of gas, and smoking opium for two days with complete absence of respiration) for twelve hours continuously with complete recoveries. But this method requires some training and could never be left to the hands of laymen. The handling of the artificial respiration by means of the pharyngeal and mask devices which I describe here is so simple that laymen could well be entrusted with its execution. And that was the main object of my endeavor to develop these devices. Cases of collapse from injuries, of poisoning by gas, of shock by electricity, etc., are discovered most frequently at places where there is no efficient medical help at hand, and time is here very precious. With the minutes which elapse without adequate help the chances for recovery diminish rapidly. These chances will increase when the devices for resuscitation are inexpensive, so that they could be had and be in readiness in larger numbers in many places, and are so simple that the execution of the resuscitation by means of these devices could be carried out by many laymen with success.

The necessity of having reliable devices for artificial respiration, however, is not confined to mines, to mills of all kinds, or to electric plants. They are surely of great necessity in hospitals. Not infrequently a surgical patient could be saved if artificial respiration could be carried on efficiently for some time. There are also numerous medical cases in which simple and efficient artificial respiration would prove life-saving. Temporary respiratory insufficiency or paralysis from any source (poliomyelitis, postdiphtheritic paralysis, tabes, eclampsias of all kinds, etc.), are not rare phenomena. And why not apply the mask method with oxygen and abdominal compression in many acute cases with inefficient circulation and respiration? "There is the possibility that the actual cause of death might be, in one case or another, especially in acute cases, only of a temporary nature, so that efficient artificial respiration might assist in temporizing and thus prove occasionally life-saving indeed. Such possibilities, though they may be realized only once in a thousand times, justify the making of an attempt in each and every instance."

Life depends essentially on the efficiency of the functions of respiration and circulation. All deaths are due in the last analysis to the failure of either of those two functions. Reliable devices by means of which the function of respiration can be kept up efficiently for many hours are bound to be the means of saving many lives. I am confident that the method of intratracheal insufflation as well as the pharyngeal and the mask methods described here are such reliable devices for efficient artificial respiration.

Sixty-Sixth Street and Avenue A.

THE CARBOHYDRATE TREATMENT IN DIABETES *

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The meaning of the carbohydrate treatment in the modern sense is the use of one sort of carbohydrates in nutrition, excluding other sorts, with the aim of diminishing glycosuria and of strengthening tolerance. The other (non-carbohydrate) articles of diet may be varied from time to time, but, as it is desirable to reduce the quantity of protein, meat is not given and only a small quantity of albumin.

This treatment is by no means new. There was a time when it was considered necessary to replace the sugar lost in the urine of diabetic patients; for instance, Piorry and Bouchardat record the experiments of French and English physicians who tried to treat diabetes with great doses of cane-sugar. As far back as fifty years ago, Donkin recommended his diabetic patients to live entirely on donkey's milk for a long period and since then the milk treatment has played a certain rôle in the treatment of diabetes for a time, although it has been opposed by Frerichs. The milk treatment was again recommended by Oettinger, Winternitz and Strasser at the end of the last century. The last-named physician, however, later wrote against the too general use of the milk treatment, and Naunyn and von Noorden opposed it altogether. Every physician who has treated many diabetic patients, however, knows that occasionally milk gives very good results. I can also record occasional

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*Read before the Northern Medical Association of Philadelphia, Oct. 12, 1912.

good results, especially among the neurogenic forms of diabetes. We shall easily understand why the milk method gives good results in some cases if we remember that it is a form of low diet, and further that with many people the milk-sugar is so slowly split that it is only gradually absorbed by the bowels. And, lastly, we know through the Karell method that milk is particularly capable of allaying hunger and thirst. It is also well-known that the albumin of milk is not irritant. In conclusion I wish to say that it is necessary to apply the milk treatment with due regard for the individual case; this is true also of the use of milk in general for diabetic patients, as the tolerance for milk varies greatly.

Not so modern a treatment is the rice treatment of von Düring. This consists of daily rations of 80 to 100 gm. of well washed rice that has been soaked over night. At the same time 250 gm. of meat are given daily. This treatment has proved successful not only on account of offering less calories but also because von Düring laid down many important rules concerning the general hygiene of the diabetic patient which greatly contributed to the success of the method. A treatment which resembles more the modern *carbohydrate treatment* is the use of potato of Mossé of Toulouse. Mossé gave potatoes gradually in the place of bread to diabetic patients till at last the daily diet consisted exclusively of 3 to 4 pounds of potatoes. Physicians greatly differ in their judgment of this method; whereas some warmly recommend it (Sawyer. Friedenwald. Labbé), others think less of it (Warschawski. Lewascheff). From my own experience, I cannot recommend the potato treatment without making some restrictions. It is an undisputed fact that the potato treatment has certain advantages, as potatoes are satisfying without being too concentrated and are capable of allaying thirst, as they contain much water. As they contain alkali, they are valuable for diabetic cases with acidosis, but the potato treatment has not been much in use.

Another method of far greater importance than those just spoken of is the oatmeal treatment. When von Noorden recommended it in 1902, he proposed to give 250 gm. of oatmeal, from 200 to 300 gm. of butter, 100 gm. of vegetable albumin or from 5 to 8 eggs. More recently von Noorden altered this treatment. Before and after the above-mentioned diet, which he prescribed for three days, he orders two days of vegetables and eggs, and in some cases no additional albumin. A great deal has been written about the oatmeal treatment, from which can be deduced that it is useful in serious cases, especially in those combined with acidosis. It is also especially useful in diabetes in childhood, and before and after operations. Some authors have stated that the use of oatmeal has been known to effect the recovery of the diabetic patient when all other methods have failed. It can never be previously determined, however, whether or not the oatmeal treatment will prove successful, as there are cases in which it has no effect. It is therefore not surprising that there are differences of opinion about this treatment. Whereas Siegel. Mohr, Langstein and others recommend it, Naunyn is less warm in his recommendation. It must also not be forgotten that the oatmeal treatment is distasteful to many patients and therefore some attention to detail on the part of both physician and patient is needed if it is to be continued for a certain period.

There are theories that oatmeal differs from other sorts of flour in the influence on metabolism. But L. Blum has lately brought forward weighty reasons against such a view. This author criticizes the new modification (the oatmeal treatment with the two vegetable-and-egg days preceding and following) by means of comparative examinations of wheat flour. These experiments proved that wheat flour is tolerated as well or almost as well as oatmeal under specified conditions; these conditions are a diet without meat and with only a small quantity of albumin. Blum's researches were conducted in a much more systematic manner than those of Falta, Lampé, etc., which had indicated the superiority of oatmeal to other cereals. The researches made by Baumgarten, Grund and myself in order to test the results of Blum have entirely confirmed them. Owing to my own experiences which I have reported in another communication, I am quite of Blum's opinion as to the arrangement of the treatment, namely that to omit meat, to give only a small quantity of albumin and to compute the calories are items of great importance in the carbohydrate treatment, as well as a previous and a subsequent diet of vegetables and eggs. The presence of a growth of saccharolytic organisms in the intestines — a matter mentioned by Klotz — is perhaps of importance also. Klotz says that the days of vegetables and eggs with many patients allow the carbohydrate flora to take the place of the meat flora in the intestines and this makes it possible for the system more completely to exhaust the starch grains, which, without increasing the secretion of sugar, may still be of use to the diabetic patient. The use of flour in soups also seems to be of great importance. The same quantities, in bread, however, have not given equally good results. It therefore seems that chemical and physical changes are produced by different ways of cooking.

The researches of Blum have given new suggestions on the subject in question, especially inasmuch as he individualizes by abandoning the strict scheme, and giving as much meal in soup form as the patient can tolerate. As to the reduction of the quantity of albumin, I am not quite of the same opinion as Blum and should only recommend such a great reduction for a short time, but for longer periods I recommend not less than 50 to 60 gm. daily. That the restriction not only of calories but also of albumin has a very good effect on some patients is seen by the success of "drinking days" which cause a very considerable diminution of sugar and acetone secretion. These drinking days are made less disagreeable to the patient by giving, besides water, tea, coffee, lemonade, and small quantities of fruit and nuts. A further progress could be made by using those carbohydrates for which the diabetic organism has a better tolerance. We have known for some time that the tolerance of diabetic patients differs toward various sorts of carbohydrates and in my publication of former researches I have made a scale in which the tolerance for levulose, lactose, glycose, starch and galactose was diminishing. I further found in researches concerning the appearance of alimentary glycosuria the sugar secretion to be greater when sugar was given in full dosage than in broken dosage.

In consequence we may say that a certain quantity of carbohydrates agrees with the diabetic patient better, the more slowly it is absorbed. I have tried the polysaccharid of levulose, inulin, for the treatment of diabetic patients. Inulin has been recommended by Kulz and also by Naunyn whose recommendation was founded on the results of his pupil Socin. Kulz as well as Naunyn studied its influence on glycosuria. Therefore when I made my extensive researches concerning the tolerance of diabetic patients to inulin, I thought it necessary to study not only the action of glycosuria but also that of acidosis. A result of this was that in grave cases of diabetes inulin was better digested than the same quantity of wheat flour and that in most cases the acidosis became greatly reduced during the inulin period. Therefore I recommend inulin in grave cases of diabetes, especially in those combined with acidosis. I do this although I am fully aware of the necessity of further investigations being made into this question of the utilization of inulin in the animal organism.

L. Mendel, for instance, doubts the fact of inulin being extensively absorbed by the bowels, whereas Minra found an increase of glycogen in the liver in most cases after inulin feeding. On examination of the feces after giving inulin, I could only find slightly more carbohydrates than is generally found. Lewis, a pupil of Mendel, has lately made a similar observation, though this does not absolutely prove that the inulin has really been absorbed. Nevertheless this seems very probable as Goodberg (St. George Hospital, Hamburg) lately showed that the respiratory metabolism is influenced by inulin in a similar way as by starch.

I gained my experience with inulin in the following way: To a certain diet, mostly vegetables, and eggs, I added 100 gm. of inulin baked in omelets or mixed in soups, vegetables or fruit poor in carbohydrates. Latterly I have repeatedly given courses of treatment by inulin in the same way as by oatmeal, in the form of a certain weekly routine. To two vegetable-and-egg days I added three inulin days (5 to 100 gm. of inulin daily) and finished up with two vegetable-and-egg days.

It is clear that a carbohydrate treatment can only be used periodically and then only in grave cases of diabetes, the lighter cases being treated in future also on the old and tried principles. But the new researches have shown that especially among grave cases of diabetes there are cases which are sensitive to albumin, and at least for these we know the principle not to give unmeasured quantities of albumin as was done in former times. It seems to me to be of special importance that we have gained the knowledge that in grave cases meat endangers the tolerance. That, besides this experience, a certain scarcity of calories in the regimen for grave cases is useful has been proved not only by clinical experiences (Bouchardat said: *Mangez le moins possible!*) but also by the researches of Naunyn and his pupils, who prove that a quantity of 25 calories per kilogram is sufficient for many diabetic patients. Therefore a proposal made years ago by Rolisch, to nourish in grave cases with a vegetable diet, deserves full consideration. The vegetable diet excludes meat but is rich in alkalies and not only poor in albumin and calories but also specially adapted to allay hunger through its large volume and to allay thirst through its great content of fluid. Another point to be noted is that the carbohydrates contained in plants are only slowly attacked by the digestive juices and are therefore only slowly absorbed, which is favorable for tolerance. De Renzi has pointed out that green vegetables are especially good for the nourishment of diabetic patients. Perhaps the flora in the bowels may also be favorably influenced by the vegetable diet. But it must be noted that not every form of vegetable diet is suitable for the diabetic patient. The diet must be poor in carbohydrates and rich in fat and those carbohydrates must be preferably given for which the patient has a specially high degree of tolerance. The new researches have taught us that the manner in which the carbohydrates are given is of great importance. It is therefore the duty of a rational therapy to find, not only that preparation of carbohydrates but also that sort of carbohydrate of which each individual patient can tolerate the greatest amount without secreting a great quantity of sugar. This complicates the dietetic treatment of the diabetic patient but also makes it more successful than was formerly the case.

Through the progress of science, the art of the individualizing therapy has developed for the benefit of the patients.

Kurfürstendamm 239.

ATYPICAL PHARYNGEAL DIPHTHERIA

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Notwithstanding the numerous articles on diphtheria in the various journals during the past two years, little or no mention is made of the atypical pharyngeal cases. A great deal has been published on typical clinical diphtheria, and on the carrier, his menace to the community and the methods of freeing such individuals from the bacillus. A rather complete examination of the literature of the past two years discloses no cases paralleling three that have come under my observation.

We are apt to think of pharyngeal diphtheria as being a disease of sudden onset with general malaise, hyperemic throat in which a membrane rapidly forms, and finally terminates after a severe course. Once an exudate has appeared on the tonsils it is generally held that membrane formation progresses actively unless antitoxin is given. In Osler's "System of Modern Medicine" we find the following:

> Pharyngeal diphtheria commences with a feeling of chilliness, not amounting to a distinct rigor, headache not particularly severe and a rise in temperature not particularly marked. The soreness of the throat at the onset is not very severe, but at the end of twelve hours becomes more pronounced, and if the fauces are examined there will be found a peculiar congestion of the tonsils and adjacent parts which has a distinctive, almost purplish, hue. At the end of twenty-four hours patches of membrane of a dirty white color can be seen. At the end of thirty-six hours or twenty-four hours from the appearance of congestion of the throat, the membrane extends very rapidly, and covers the tonsils, uvula, and the hard and soft palate. Dysphagia now becomes a prominent symptom; the temperature has risen two or three degrees; the prostration commences to be marked. The membrane, which has been quite thin, now becomes very marked, and cannot be removed from the subjacent parts without difficulty and leaves a bleeding surface, etc.

How different is the clinical course of diphtheria in the following! These cases came to my attention while acting as medical inspector in certain of the Cleveland public schools. The diagnosis in each instance was confirmed by cultures examined at the city laboratory, and, as each throat was cultured at least once after the diagnostic culture was made, we can eliminate any possibility of a mistake on the part of the laboratory. The children all showed hyperemic throats; two had small "creamy blue" exudates on one of the tonsils, and all had mild constitutional disturbance. Two showed a slight rise in temperature; the temperature of the third was not taken. In short, they were suffering from a mild attack of pharyngeal diphtheria, and although none of them was given antitoxin the exudate promptly disappeared, and all were to outward appearance perfectly well. Without laboratory diagnosis the true nature of the disease would have been unrecognized, and probably called "light tonsillitis." The children would have returned to school in a few days and served as distributing agents for the Klebs-Loeffler bacillus.

CASE 1.—Ellen K., aged 11, Clark School, Oct. 14, 1912. Complaint: sore throat. For twenty-four hours the child had experienced slight distress on swallowing, and some constitutional disturbance but not enough to keep her from school. Inspection of the throat showed some hyperemia and congestion of the pillars, tonsil, and posterior pharyngeal wall. A culture was made and the girl excluded from school until a report could be had from the laboratory. Diphtheria bacilli being found, quarantine was established. The family physician was called. No antitoxin was administered, nor was the patient put to bed. Quarantine lasted twenty-six days.

CASE 2.—Howard D., aged 11, Kentucky School, Oct. 22, 1912. During a routine inspection of throats this boy was found to have considerable hyperemia of the throat and a "creamy blue" exudate about one-eighth of an inch in diameter on one of his tonsils. Temperature (mouth) 99.6. Culture showed diphtheria bacilli. No antitoxin was given by the family physician, and the boy says that he felt well during quarantine except for one day when he experienced some constitutional disturbance and thought he was "feverish."

CASE 3.—Margaret H., Orchard School, Jan. 14, 1913. The girl was sent for inspection because of swollen lymph-nodes. The teacher feared mumps; the submaxillary lymph-nodes on both sides were hard and somewhat tender. Nothing was found in either the mouth or throat, but she was excluded. One week later she returned to school and was again inspected. The throat was quite red and on the right tonsil was seen a round dirty white membrane about one-quarter of an inch in diameter. Mouth temperature 99.4. Two swabs were taken and a culture made. A preparation made from one of the swabs, and examined by myself, showed diphtheria bacilli, and this finding was confirmed by the culture sent to the city laboratory. The child felt well and wanted to remain in school. Quarantine was established but no physician called until, quarantine becoming irksome to the parents, one was sent for to take a culture for release. The child says that she was up and about and did not feel ill.

It seems scarcely fitting to classify these patients under the head of diphtheria carriers. A carrier is a person who harbors virulent pathogenic organisms without evidence of reaction. As the above cases all showed some reaction, both local and general, we must classify them as atypical pharyngeal diphtheria. Without culture they would have escaped recognition; their identification rested with the laboratory. Here again is emphasized the necessity of making a culture from every "sore throat." A case of so-called tonsillitis may clear up in a few days and still be dependent on the Klebs-Loeffler bacillus.

I have made this brief report with the hope that it may awaken interest in atypical manifestations of pharyngeal diphtheria. These cases are not uncommon, and their detection is of the utmost importance in preventing the spread of diphtheria. Let us bear in mind the rôle of cultures as a diagnostic measure.

1864 East Eighty-Second Street.

Things Necessary for the Complete Study of a Disease.—For the satisfactory and complete study of a disease three things are necessary for the student: he must see the disease in a living patient, he must see after death the effects that that disease has produced in the patient during life, and he must study all that is recorded in literature on the subject.—F. M. Sandwith, in *Clin. Jour.*

TUBERCULOSIS OF THE LARGE ARTERIES

WITH THE REPORT OF A CASE OF TUBERCULOUS ANEURYSM OF THE RIGHT COMMON ILIAC ARTERY*

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Tuberculous lesions of the vascular system have long been of interest as points of distribution of bacilli in cases of general miliary tuberculosis. The following example of such a lesion is noteworthy for two reasons: first, on account of its rarity; second, because it gave rise to the presence of great numbers of tubercle bacilli in a few glomeruli in the kidney, where they caused little or no reaction in the tissue about them. Weigert, as early as 1877, pointed out the important relation between tuberculous lesions of the vascular system and general miliary tuberculosis. Following his papers a very large literature has grown up on the subject. All manner of tuberculous vascular conditions have been carefully studied and described. These have included lesions of the thoracic duct, pulmonary and systemic veins, large and small arteries, and even of the heart itself. Commonest of all are the lesions of the veins and especially those of the pulmonary veins, while those of the aorta and its main branches are exceedingly rare.

Four general types of tuberculous lesions of the aorta and its main branches have been described: (1) miliary tuberculosis of the intima; (2) polypi of tuberculous tissue attached to the intima; (3) tuberculosis of the wall, involving the several layers; and (4) aneurysms, the walls of which are composed of tuberculous tissue.

The first-mentioned class, that of miliary tuberculosis of the intima, is by far the most common type recorded. It is most often described as occurring alone, but has also been found as an accompaniment of the other forms mentioned. Benda and Geisler[1] reported an exceedingly interesting example, in which not only the intima of the aorta, but also that of the iliacs and femorals were covered with bright, glistening miliary tubercles. Thorel[2] had a case with extensive involvement of the intima of the aorta. Other well-marked cases have been given by Hanot,[3] Schudardt,[4] Weigert,[5] Marchand and Huber,[6] and others.[7]

Examples of the second type have been placed on record by Benda,[8] Stroebe[9] and Aschoff.[10] The lesion consists of a small pear-shaped mass of tissue, which resembles a white thrombus in appearance, and is attached by a pedicle to a slight elevation of the intima, with the distal portion swinging free in the direction of the blood-current. In Benda's two cases the attachments of the polypi were over old atheromatous areas. Benda thought that tubercle bacilli from the blood had been implanted on the old sclerotic patches and that this was followed by thrombus formation over the area, which later became partially organized and assumed its polypoid form through the constant pulling of the circulating blood. In one of his cases the polyp reached a size of 1.2 cm. in length. Microscopically the polypi are seen to be partially caseous and to contain numerous tubercle bacilli.

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* Reported from the Pathologic Department of Harvard University.

1. Benda und Geisler: Quoted by Thorel; see Note 2
2. Thorel: Pathologie der Kreislauforgane, B. Gefasse. Lubarsch-Ostertag, Ergebn. der Path. u. Anat., 1906, Part 1, p. 1040.
3. Hanot, V.: Tubercle de l'aorta, Sem. méd., 1895.
4. Schudardt, C.: Die Impftuberculose des Auges u. der Zusammenhang mit der allgem. Miliartuberkulose, Virchows Arch. f. path. Anat., 1882, lxxxviii.
5. Weigert, C.: Ueber Venentuberkel und ihre Beziehungen zur tuberkulösen Blutinfection, Virchows Arch. f. path. Anat., 1882, lxxxviii, 308.
6. Marchand und Huber: Cited by Weigert (see Note 5), p. 360.
7. Chiari, H.: Aortitis tuberculose, Ver. deutsch Aerzte in Prag., Dec. 5, 1902.
8. Benda, C.: Casuistische Mitteilungen über Endangitis tuberkulose, Verhandl. d. deutsch. path. Gesellsch., 1900, p. 335.
9. Stroebe: Ueber Aortitis tuberculosa, Centralbl. f. path. Anat., viii, 1897.
10. Aschoff: Ueber Endaortitis tuberculosa Verhandl. d. deutsch. path. Gesellsch., 1900, p. 419.

Under the third heading are included all tuberculous lesions affecting the several layers of the wall. Dittrich[11] reported a case in which the tuberculous process spread from a near-by caseous lymph-node and invaded in turn all of the layers of the aortic wall: a thrombus was attached over the point where the intima was affected. Buttermilch[12] had a case which came in a similar way from a tuberculous process in the vertebral column and brought about the formation of a nodule of tuberculous granulation tissue in the media, which pushed up beneath the intima and encroached on the aortic lumen. Hedinger[13] and Schwalbe[14] have also reported cases in which tuberculous granulation tissue has destroyed parts of the aortic wall.

Of the fourth and last group I have been able to find only four recorded cases and for the sake of comparison with my own case, it will be necessary to go somewhat more fully into the description of each case.

Kamen[15] described an aneurysm of the ascending portion of the aorta just above the aortic cusps. The patient was a soldier 24 years old who had chronic pulmonary and acute miliary tuberculosis. Death occurred from rupture of the aneurysm. The outer portions of the wall were in contact with a caseous lymph-node of the posterior mediastinum and showed advanced tuberculosis. The aneurysm was of the dissecting type and its cavity communicated with the lumen of the aorta through a tear in the intima.

Hannau and Sigg[16] reported a case of an aneurysm of the thoracic aorta arising in connection with a tuberculous lung cavity. The entire wall became replaced by tuberculous tissue. The cavity was filled with a caseating mass of thrombotic material.

Ribbert[17] demonstrated a specimen, from a woman 46 years old who died of chronic pulmonary tuberculosis, in which communication had been established between the lumen of the aorta and a cavity lying in a large tuberculous mass, which arose from the periosteum of the vertebrae. The outer layers of the aorta had been destroyed and replaced by tuberculous tissue and the process had advanced until rupture of the intima had occurred. A small oblique tear of the intima opened into a short canal which led from the aorta into the cavity. The cavity itself was nearly filled with caseous clot. As he points out, this was not a true aneurysm although the circulating blood passed in and out of the sac.

Councilman and Mallory[18] have given a very full description of the following case which occurred in a man who died of general miliary tuberculosis, affecting practically all of the organs. Old fibroid and calcareous nodules and large conglomerate tubercles were also found in the lungs. The entrance of the aneurysmal sac was seen as a small opening, resembling the exit of an artery, situated on the anterior surface of the lumen of the aorta 6 cm. above the celiac axis; it admitted a probe for a distance of 2 mm. From the outside the sac appeared as a spheroidal mass, measuring 1 cm. in its transverse and 0.6 cm. in its longitudinal diameter. The surface was smooth, reddish-grey in color and showed several whitish streaks. On the intima of the aorta beneath the opening were many miliary tubercles. A few scattered tubercles occurred lower down.

Microscopic sections of the aneurysm showed short depression in the wall of the aorta; a cleft at the bottom of this opened into a wider space, which in turn extended into a cavity, probably beyond the adventitia. The intima appeared to pass down through the cleft as a covering for the broken ends of the media and then became lost in the necrotic contents of the cavity. Between the intima and the media, there was a small focus of caseation necrosis. The media for the greater part appeared normal up to the place of rupture. The break was sharp and oblique. The broken ends of the elastic fibres were plainly seen. The outer layers of the media had undergone caseation necrosis. The adventitia was normal up to the point where it spread out into a mass of thickened connective tissue which lay on each side of the cleft, and portions of this were caseous and necrotic. The cavity was lined with fibrinous, partially caseous, hyaline material on the inside of which was a small irregular thrombotic mass, composed largely of dead cells and well preserved polynuclear leukocytes and endothelial cells. Stains for tubercle bacilli demonstrated the presence of great numbers in the thrombotic material.

The question of the process of development of tuberculous lesions in the arteries has given rise to considerable discussion. One school headed by Benda asserts that in the large majority of cases the lesions arise from direct implantation of the bacilli on the intima. In support of this theory they cite the facts that lesions have been found affecting the intima and not the media; that such lesions have often had their beginnings on old atheromatous ulcers which were not in themselves tuberculous; that in some cases in which more than the intima was involved there was no near-by focus, and further that in some of these latter instances tuberculous processes have been found in the thoracic duct or pulmonary veins, showing another point of entrance for the bacilli into the blood. Weigert[19] and his pupils, on the other hand, believe that the lesions come only from without and that the bacilli are implanted either by direct extension to the adventitia or through the vasa vasorum at the site of the disease process. Chiari, who made as complete a study of these conditions, perhaps, as has yet been made, concludes that they develop in all three ways, and vary in the individual cases.

The instance which I am reporting was obtained from an autopsy done at the Boston Municipal Tuberculosis Hospital at Mattapan. I am indebted to Dr. Francis P. McCarty for the clinical data. For the sake of brevity the history had to be considerably shortened, and only the most pertinent facts retained.

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[11] Dittrich: *Ein Beitrag zur Pathologie der akuten allgem. Miliartuberkulose*, Prag. Ztschr., xix, 1888.

[12] Buttermilch, W.: Ein Fall von Tuberkulöse der Aortenwand. Inaug. Diss., Berlin, 1898.

[13] Hedinger, E.: Miliartuberkulöse der Haut bei Tuberkulose der Aorta abdominalis, Ztschr. f. path. Anat., 1908, ii, Part. 1.

[14] Schwalbe: Ein Fall von primärer käsiger Tuberkulöse der Aorta und der Arteria Pulmonis, Militärärztl. Ztschr., 1903.

[15] Kamen: Aortenruptur auf tuberkulöser Grundlage, Beitr. z. path. Anat. u. z. allg. Path. (Ziegler's), 1895, xvii.

[16] Hannau und Sigg: Beiträge zur Lehre von der akuten Miliartuberkulose, Mitt. a. klin. u. med. *Inst.* der Schweiz, Series 4, iv, 1896.

[17] Ribbert: Mitteilung über ein tuberkrloses Aneurysma der Aorta, Sitzungsb. d. nied.-rhein. Gesellsch. f. Nat.- und Heilk. zu Bonn, med. Section, May 14, 1910

[18] Councilman and Mallory: *A Study of Lesions In Selected Autopsies*, Med. and Surg. Rep. *Boston City Hosp.*, 1896.

[19] Weigert, C.: Fall von Venentuberkulose Sitzungsb. d. schles. Gesellsch. f. vaterl. Kultur, July 13, 1877.

REPORT OF CASE

Patient.—F. J. Mc., man, aged 33; porter. Clinical Diagnosis: General miliary tuberculosis; chronic pulmonary and right-sided renal tuberculosis; tuberculous enteritis and aortic aneurysm.

History.—Patient had been twice married and had five living children. The first wife and one child died of tuberculosis. The patient was treated fifteen years previous to present attack for pleurisy with effusion. Two years before he had right testis removed at Massachusetts General Hospital, and a report of tuberculosis was returned from the laboratory. The patient made a good recovery and worked up to one month before death. He gave history of having received a kick in the abdomen by a horse five years previous to entrance to hospital. On entrance to the hospital, patient gave history of diarrhea for the past six months; of having lost 20 pounds during the last three months; and of bloody sputum for the last month. He was short of breath, had a severe cough and an elevation of temperature toward evening. He complained of a painful dryness of the throat.

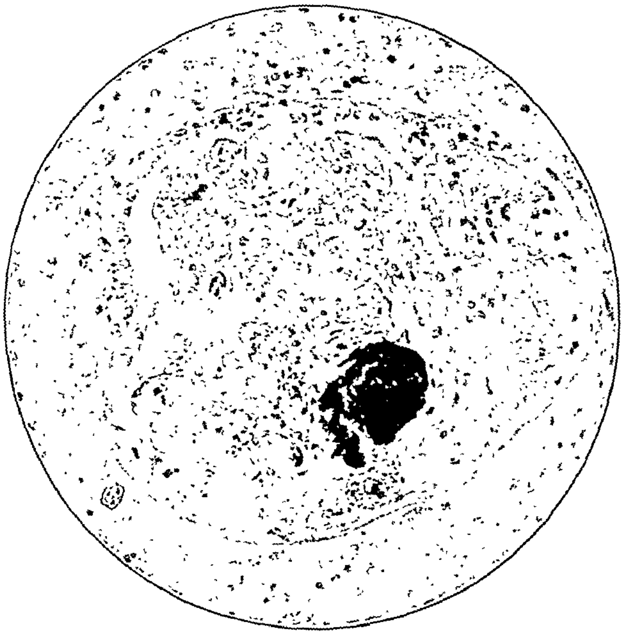

Fig. 1.—Masses of tubercle bacilli in the glomerulus of the kidney without inflammatory reaction about them.

Examination.—There was dulness of both apices which extended on the left side to the third rib, and on the right to the second rib in front, and to the lower border of the scapula in the back. The throat was deeply fissured and dry, but not ulcerated. The right testis was missing; the left apparently normal. A pulsating area about the size of a walnut was found somewhat to the right and below the umbilicus and over it a systolic bruit was heard. The liver was greatly enlarged and the right kidney was palpable, movable and tender. The clinical laboratory reported many tubercle bacilli found in direct smears from the sputum, feces and urine. The urine showed a specific gravity of 1.012, was acid and gave positive albumin and negative sugar reactions. The sediment contained many granular casts and pus-cells. There was a white blood-count of 15,000; a differential count was not made.

On the day before death, the patient developed marked dyspnea, moist râles in the right base and hyperresonance anteriorly. Miliary tubercles were observed on the back of the throat.

Necropsy.—At necropsy the examination was limited to a 15 cm. abdominal incision, so that the aneurysm and most of the other organs could not be observed *in situ*. There was no swelling or other external means of determining the location of the pulsating area observed on clinical examination.

Aneurysm: In front of the right common iliac artery a smooth spindle-shaped enlargement was felt. It was so densely adherent posteriorly that it was torn when it was removed. It was found to be covered with peritoneum, free from adhesions on its anterior surface, and covered with dense fibrous adhesions posteriorly, which gave it a ragged appearance. It measured 7 cm. in length, 4 cm. in breadth and 3 cm. in thickness. Its wall appeared to be continuous with the common iliac above and with the internal iliac below. The external iliac came off from the lower portion of the mass posteriorly. On opening the vessels, the enlargement was found to contain an aneurysmal sac, the cavity of which communicated with the lumen of the common iliac artery through an opening on its anterior wall, just above the division into internal and external iliacs. The opening was nearly 2 cm. long and 0.8 cm. wide. The interior of the sac was almost filled with reddish-grey thrombotic material which appeared caseous. This material presented a smooth surface which came directly in contact with the circulating blood.

Microscopically the outer wall of the sac was found to be continuous with the adventitia of the common iliac above and with that of the internal iliac below. It contained large masses of caseous material. The media and intima took no part in the enlargement. They continued unbroken until at a point about 2 cm. above the tear the outer elastic fibers of the media began to turn into the contents of the sac.

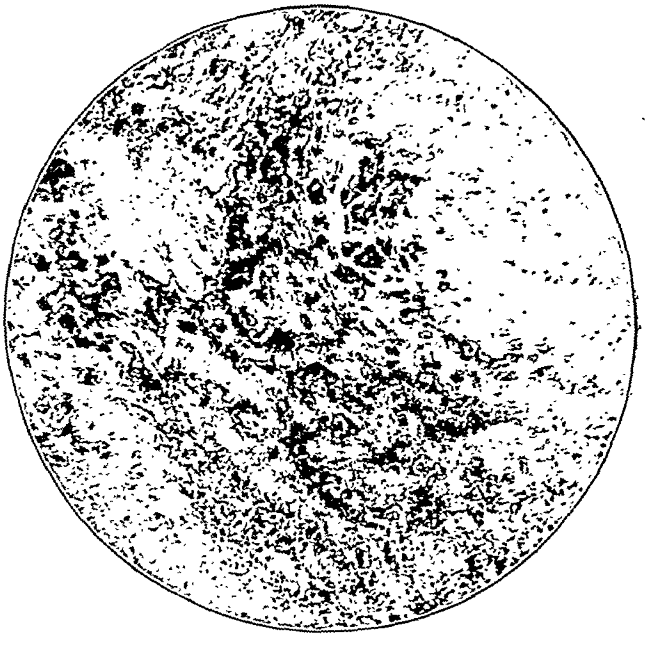

Fig. 2.—Masses of tubercle bacilli in the caseous clot in the aneurysmal sac.

From this place on, the media became gradually thinner until at the point of rupture it was only about half its original thickness. The broken ends of the elastic fibers of the media were turned completely back on themselves and spread out in the caseous contents of the sac. The intima was thickened just above the break. It followed the inner fibers of the media outward through the opening and became lost in the mass of caseous material. The cavity was filled with lamellated thrombus, which still gave the fibrin reaction, though it was for the most part in an advanced stage of caseation necrosis. In the section taken from the upper lip of the tear there was seen a polyp-like piece of clot, which extended into the cavity and must have partially occluded the opening during life. The remaining portion of the surface of the clot was smooth. Great numbers of acid-fast bacilli were found diffusely distributed in the polypoid piece of clot and throughout the entire contents of the sac. There were also clumps of these bacilli so large that they appeared as red blotches under the low power. They resembled colonies from pure cultures of tubercle bacilli. In a section taken from the lower portion several small lymph-nodes containing areas of caseation were seen lying between the internal and external iliac arteries.

Kidneys: Together the kidneys weighed 450 gm. They presented granular surfaces, swollen cortices, fatty streaking of the medullae and a moderate number of caseous tubercles. Microscopically some of the glomeruli of the kidney were filled with clumps of acid-fast bacilli. About these there appeared no evidence of reaction, either inflammatory, proliferative or necrotic. The capillaries of these glomeruli were simply dilated and filled with masses of red-staining bacilli. In one or two instances simple proliferation of the pericapsular endothelial cells of the glomerulus was observed. The proliferating cells contained similar bacilli. There was here no suggestion of exudation. Many early tubercles without caseation were seen in the kidneys, some of them bearing a definite relation to glomeruli. Older lesions were present but not numerous; they were caseated single and conglomerate tubercles.

Lungs: The left lung was covered with old fibrous adhesions. Beneath the pleura could be seen and felt many small, firm white nodules varying considerably in size. In the upper lobe was a small thin-walled cavity 3 cm. in diameter. The cut surface presented tubercles varying in size from the finest glistening points to a diameter of about 3 mm. In the upper lobe were several foci of caseous consolidation. The right pleura showed a single band of apical adhesions and was otherwise free. The right lung contained no cavities. Many minute tubercles were seen on the cut surface. The greater portion of the lower lobe was consolidated and scattered over with yellowish tubercles. Microscopic preparations from the lungs showed typical tuberculous lesions ranging from the earliest endothelial proliferations without caseation to old conglomerate tubercles. Sections were also made to confirm the tuberculous nature of the pneumonic areas and of the wall of the cavity. Stained with Ziehl-Nielson's method the sections showed enormous numbers of acid-fast bacilli.

Other Organs: The spleen weighed 300 gm., was enlarged, congested and contained many finely granular tubercles. The liver weighed 2,275 gm., was enlarged, fatty and contained many tubercles, some of which were caseous. The intestine and urinary bladder showed ulcerations. The right seminal vesicle and prostate contained caseous material. The heart, aorta, stomach, pancreas, gall-bladder, adrenals, left testis, epididymis and seminal vesicle were negative.

All of the gross lesions described above were verified microscopically.

In spite of the fact that no cultures were made in this case, we concluded that we were dealing with tubercle bacilli because the lesions were typical of tuberculosis in every way, and the organisms, so far as morphology, staining reactions, and distribution were concerned, were identical with those of the tubercle bacillus in acute miliary tuberculosis.

It seems that in this case the process leading to aneurysm came from without, but since the attachment to the vertebral column could not be seen we do not feel certain whether it came from a caries of the bone or from tuberculosis of some of the surrounding nodes. Neighboring tuberculous lymph-nodes were found but the lesions in these might have been secondary and not primary. The important evidence then lies in the facts that the more advanced lesions were in the adventitia and the outer layers of the media, while the inner layers of the media and the intima showed only the effects of rupture. The history of the kick was ruled out as a possible cause on the ground that the aneurysm was protected on all sides from direct injury by the bony pelvis.

We believe then that the tuberculous process spread directly to the adventitia of the right common iliac artery from some near-by focus; that it so involved the media as to lead to rupture; that the pressure of the blood pouring through the opening separated the inner layers of the media from the outer layers and the adventitia, thus producing a sort of dissecting aneurysm; that the blood in the sac thus formed underwent coagulation and became infected from the tuberculous adventitia, and served as a medium for the growth of the tubercle bacilli and as a source of constant supply of them to the blood. In this way the marked variation in the age of the miliary tubercles of the organs is satisfactorily explained.

The presence of tubercle bacilli in the glomeruli of the kidney without inflammatory reaction, we think, indicates that the patient had reached a stage in which his system of defense — call it "immune bodies" or "what not" — was so exhausted that it could no longer react against the stimulus of the toxins of the tubercle bacillus. This we believe to be analogous to those cases of advanced tuberculosis and miliary tuberculosis in which the tuberculin reaction fails.

In other glomeruli, the multiplication of the pericapsular endothelium containing tubercle bacilli, we believe to be definite instances of simple endothelial proliferation, without exudation, due either to the toxin or the presence of the tubercle bacilli.

In closing I wish to express my indebtedness to Drs. Councilmann, Mallory and Klotz for their help and suggestions in the preparation of this paper, and to the former for the use of the pictures.

TREATMENT OF FELONS WITH REFERENCE TO THE PATHOLOGIC ANATOMY AND LOCATION OF INCISIONS

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A felon is primarily an inflammation of the connective-tissue space which is situated on the palmar surface of the last phalanx of the fingers (Fig. 2).

This definition was determined on after studying the anatomy of this part and making careful dissections of several felons. The anatomy of the anterior or palmar surface of the last phalanx is exceedingly interesting. In studies of the longitudinal and cross-sections, one will note a connective-tissue space situated anteriorly to the bone. The space is surrounded by a dense wall of connective tissue which prevents the escape of any substance injected into it. To demonstrate this space or cavity, I have injected it with wax. The specimen was then frozen and a longitudinal section made showing the space to be greatly distended and completely walled off from the remaining subcutaneous tissue of the rest of the finger (Fig. 2).

It has been noted by Kanavel that the epiphysis of the distal phalanx is supplied by a branch of the digital artery before it enters this connective-tissue space, whereas the diathesis is supplied after the artery enters this space. This arrangement I have usually found present on one side or the other of the finger. A careful study of Figure 1 will make this point clear.

It can be readily understood after studying the anatomy of the end of the finger why we sometimes have necrosis of the end of the bone in felons which are opened late. The diathesis is supplied by a separate artery after it enters this connective-tissue space and when we have an inflammation of this space there is considerable swelling which presses on these arteries and cuts off the blood-supply, thereby giving a necrosis of the diathesis but not of the epiphysis, this latter being supplied by branches of the digital arteries before they enter this space. This condition of affairs is shown in Figure 1.

The pain, which is throbbing in character is produced by obstruction of the venous return caused by pressure of the inflammatory material so that each pulsation of the arteries makes pressure upon the nerves in the closed space.

The source of the infection may be a pin- or needle-prick or local trauma but frequently no history of the cause is obtainable. The first intimation the patient has of the trouble is a sticking pain in the tip of the finger, which rapidly becomes throbbing in character. Within a few hours, the distal portion of the finger becomes red, swollen, and tender. The last phalanx is at first tense from edema, which is rapidly replaced by induration, and finally within forty-eight hours fluctuation is present.

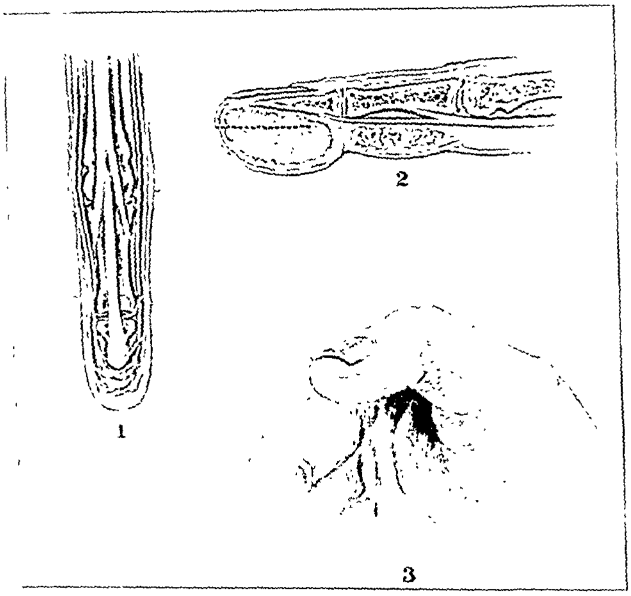

Fig. 1.—Note distribution of arteries.
Fig. 2.—Connective-tissue space distended with wax under pressure. Dotted line where incision would extend
Fig. 3.—Line of incision, one half only shown.

TREATMENT

Many surgeons teach that it is best to wait for suppuration to take place before opening a felon, meanwhile using ointments of various kinds or hot or cold applications. This method of treatment cannot be too severely condemned, as delay causes the patient much pain, a wider destruction of tissue and frequently the loss of a portion of the bone.

In felons as in every other closed cavity, such as subaponeurotic infection of the scalp or osteomyelitis of the long bones, free and quick drainage is desirable. If then a free and adequate drainage is desired, what method of incision will best suit the present condition? The usual method is a longitudinal incision over the pad of the finger, which is not advisable because it does not allow free drainage, but on the contrary has a tendency to close up and requires packing to keep it open. Packing is very painful and very difficult to keep in place. Another objection to this method is that the incision injures the tactile area and an ugly retracted scar is the result. Kanavel's method, the making of two lateral incisions, is much superior to the above, but even this does not give the desired drainage, has a tendency to close up and requires subsequent packing. I have used the incision described below in all my cases and have found it to give excellent results even in severe

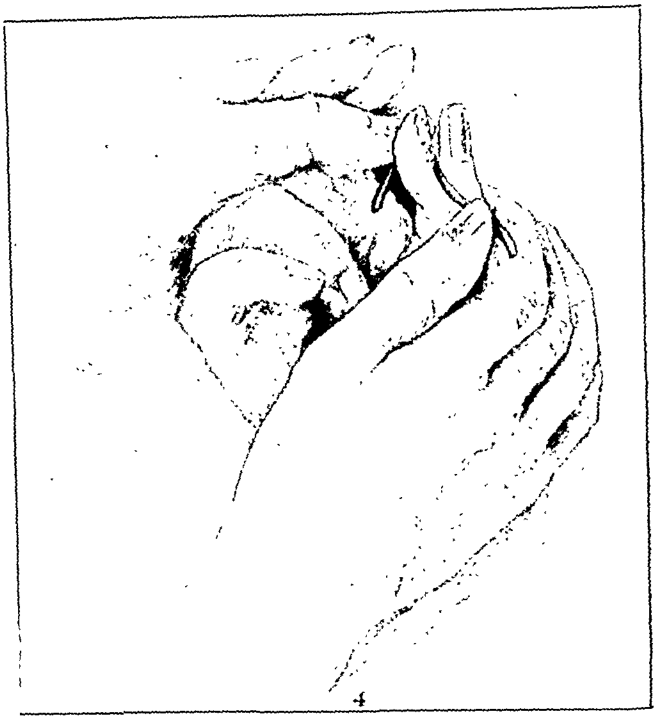

Fig. 4.—Wound after incision. Method of rapidly introducing rubber tissue.

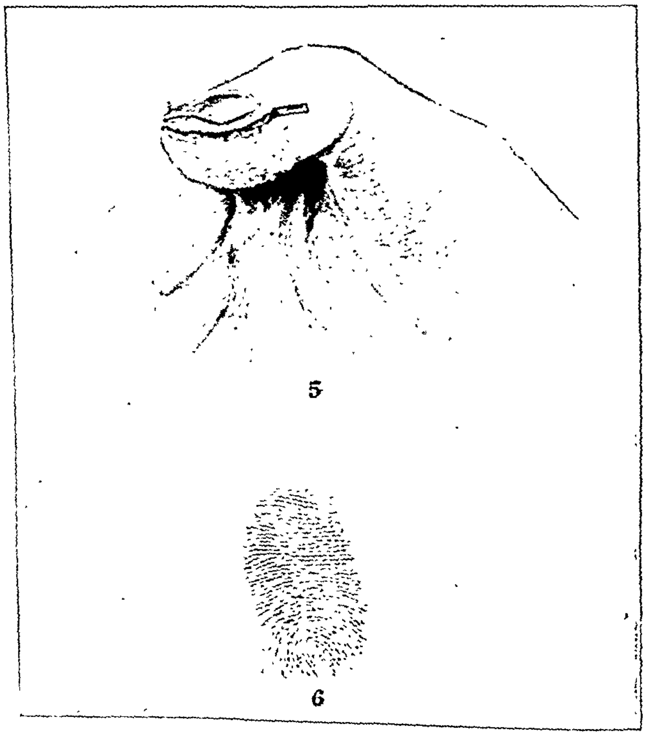

Fig. 5.—Finger ready for dressing.
Fig. 6.—Imprint. Note line of furrows.

infections. It will be noted that no subsequent packing is required. If the patient is operated on early no loss of bone occurs. The scar is almost invisible, being in line with the furrows of the skin, and further does not impair the tactile area. Complete and free drainage is immediately obtained.

For the first few days, the wound will appear to have been more than was necessary, but the final result will quickly dispel any such idea. The incision, which is best shown in Figure 3, starts at the level of the base of the nail on one side and extends in the line of the skin furrows over the tip of the finger, up the opposite side to a point on the level with the beginning of the incision, in that way making a flap of the tip of the finger. A piece of rubber tissue or gauze impregnated with petrolatum is placed in the uppermost angle of the wound as shown in Figure 4.

The wound is dressed with normal salt solution. The dressings, which are kept moist, are renewed every day without removing the packing. On about the third day the rubber tissue will come away and no subsequent packing will be found necessary. This is a great relief to both the patient and doctor. The wound will gradually close and after a period of several weeks the finger will assume its usual size and shape. If the case is seen after suppuration has taken place, it may become necessary at a later date to snip off the diseased diathesis and save the epiphysis. This was seldom necessary in my series of cases.

A general anesthetic (preferably nitrous oxid), is essential, so that a careful, complete and painless operation may be performed. The way these fingers are opened without an anesthetic in the average receiving ward is nothing less than brutal.

2025 Walnut Street.

THE LATER HISTORIES OF FOUR SURGICAL CASES

1. MY FIRST CASE OF BRAIN TUMOR (1887).
2. TWO PATIENTS WITH RECTAL CANCER SURVIVING MANY YEARS; DESCRIBING ALSO A SIMPLE AND SUCCESSFUL METHOD OF DRESSING AN INGUINAL ANUS.
3. TRAUMATIC RUPTURE OF MIDDLE MENINGEAL ARTERY WITHOUT SKULL FRACTURE (1902).

W. W. KEEN, M.D.
PHILADELPHIA

BRAIN TUMOR

Case 1.—In December, 1887, I removed a large tumor from the brain.[1] It was my first case of modern cerebral surgery. The weight of the tumor was 3 ounces and 49 grains, and its size 2⅞ by 2½ by 1¾ inches, its circumference being 7¼ by 6 inches.

The tumor was a fibroma arising from the dura. Dr. W. J. Taylor has stated[2] that the patient "lived for nearly twenty years" after the operation. This is an unintentional error, for it was 25 years last December since the operation, and the patient was still alive a few months ago. His sight is poor, but is sufficient to enable him to find his way about, though not to enable him to read. He has once in a year or so an epileptic attack in spite of his use of bromids. He is now 50 years old and bids fair to live for some years.

CANCER OF THE RECTUM

Case 2.—I made an inguinal artificial anus (Maydl), Nov. 5, 1892, and eleven days later resected 6 inches of the rectum, leaving both the inguinal and the perineal openings patent. The cancerous nature of the growth was established by microscopic as well as clear clinical evidence.

The patient, Mr. B. (Case 2 of my original paper[3]), was 32 years old at the date of the operation. He lived until 1906, a period of fourteen years, and then died without local recurrence. It is possible that his death was caused by internal malignant disease, but this was not determined. I never attended him after the operation, though I often saw him socially.

Meantime he had been able to enter into all ordinary business and social life, to travel to Egypt and elsewhere, and to ride a horse and a bicycle. When later I proposed to close the perineal opening where the bowel protruded moderately he declined, for the reason that he was comfortable and had satisfactory control of the contents of the bowel.

Case 3.—I operated on the patient, Mr. F. (Case 3 of my original paper[3]), Dec. 14, 1892. He was then 46 years of age. As in the prior case, I made an inguinal anus (Maydl) and twelve days later resected 9½ inches of the rectum. Microscopic examination confirmed the clinical diagnosis. The lower (perineal) end of the bowel was left open as well as the inguinal anus. After a time he was so much annoyed by the prolapse of the bowel that he willingly acquiesced in my suggestion to have the perineal opening closed.

Operation and Results.—Feb. 16, 1900: Placing the patient on his right side, I carried an incision through the skin about one-third inch away from the perineal opening of the bowel. I then dissected down to the muscular coat of the bowel immediately at the level of the perineum. By the finger and by blunt dissection and scissors, I was able to detach the complete layer of mucous membrane from the bowel so that it hung down like a cuff. This was then cut off at a level with the muscular coat, and the margins of the mucous cuff were united by a through-and-through catgut suture. This stump was next invaginated, and two rows of Lembert sutures were applied through the muscular coat. I was surprised on releasing my control of the closed end of the rectum to see the enormous cavity into which it retreated. I could easily introduce my entire fist to a distance even beyond my wrist, and yet at no place had the peritoneal cavity been invaded. When the patient was resting quietly this retraction to the bottom of the cavity took place, but the moment that he attempted to vomit, cough or struggle, the stump of the bowel would be pushed down to the level of the perineum or even beyond it. The stump of the bowel was now brought down to within an inch of the surface of the perineum, and the perineal wound was closed with interrupted silkworm-gut sutures, four of which secured the rectal stump in position. If this had not been done, there would have been an immense dead space in which bloody serum would have accumulated and might easily have led to an infection. When the bowel was pulled down, the lax tissues about it filled up practically this whole cavity. A rubber drainage-tube was introduced both anteriorly and posteriorly to avoid this danger of infection.

The operation lasted an hour and three quarters, and was tedious rather than difficult. The mechanical result was most satisfactory to me. The patient's temperature showed no appreciable fall after the operation.

The wound healed by first intention except at two points, one exactly corresponding to the middle of the closed stump of the bowel, the other close by. A very slight discharge of mucus occurred at these points. To avoid danger from downward pressure I kept him in bed 'till the wound was securely healed. He went home in four weeks.

I have seen and heard from him from time to time. The last occasion was Jan. 14, 1913, a little over twenty years after the primary operation. He is now 66 years old, is perfectly well, and weighs rather more than ever before. His business and social life are normal, except when his bowels are loose. The discharge even then rarely escapes beyond the dressing and soils his underclothing. The result of the operation to occlude the perineal anus is very gratifying. He says of this that "there is nothing to show. It is simply a 'closed incident.'"

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[1] Keen, W. W.: Am. Jour. Med. Sc., October, 1888, p. 329.

[2] Taylor, W. J.: Tr. Am. Surg. Assn., 1912, p. 361.

[3] This was originally reported in the Therapeutic Gazette for April and May, 1897.

METHOD OF DRESSING INGUINAL ANUS

As he has had so long and so successful an experience in dressing the inguinal anus and in observing the condition of the culdesac from the open inguinal anus to the closed perineal anus, I quote in detail his method of dressing the inguinal anus. This is always a problem of serious import to the patient. Many devices, often cumbrous and costly have been used. Mr. F.'s method is so simple and so effective that I believe a detailed description — for even the little details are important — will be welcomed both by the surgeon and his patient.

The accompanying illustrations well illustrate his present condition. His suggestion of a "dummy" truss has been of great value to other patients after a similar operation. The truss as he says is the "key to the situation."

Mr. F. writes: The bowel ends protrude, normally, about half an inch outside the wall of the abdomen (Fig. 1.) The end of the unused bowel does not vary in size; it is inert. The end of the active bowel is like it when conditions are normal. . . . I have fairly regular movements every morning, depending, of course, somewhat on regular habits of eating and drinking, which also affect the character of the discharges as to their being formed or semi-liquid. . . . My motions are never under control as with a normal sphincter. At the same time they give me fair warning. If formed they do not hurry me and in cases of necessity, as when traveling. I can carry a movement for hours. But if semiliquid or worse they must be cared for promptly. . . .

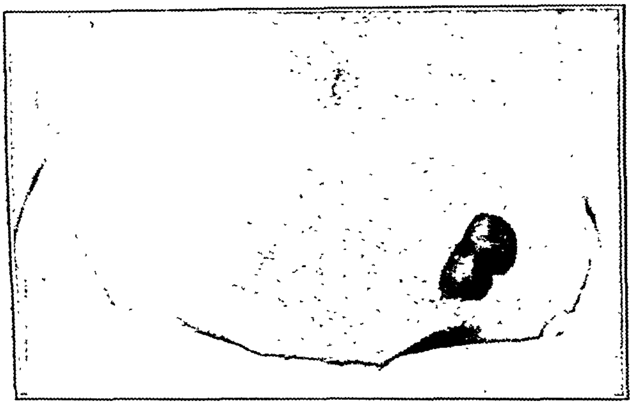

Fig. 1.—The two ends of the divided bowel at the inguinal anus twenty years after operation (Case 3).

Now, as to protection (Figs. 2 and 3.) You are right in wanting this in detail, for it is that which must take the place of control, and it is the key to the situation. I am sending you under separate cover a T-bandage and pads of absorbent cotton which have served me so well all these years. I have seen expensive surgical appliances of silver cup, rubber tube and reservoir which were of no use at all. Lying on my back with the bandage spread out under me, I first wrap a string of absorbent cotton around the bowel ends. Then I place over the abdomen a layer of cotton about 8 by 11 inches, reinforcing it at the bottom with another strip 3 inches wide to make double thickness. This is better to support the flange at the truss and to increase absorption. Over this pad I lay a smaller piece of cotton or linen cloth—any clean old rags will do—then another sheet of cotton, split thin, then another cotton rag and on this a square about 5 by 6 inches of rubber cloth. These cotton pads extend one-third of their length over the bowel ends to the right and two-thirds to the left and down the side, as it is in the latter direction that the movements spread most.

Then I bring the bandage over from the right side, lap it with the end from the left side and fasten with five safety-pins 1¼ inches long, beginning at the bottom and drawing fairly tight. I then bring up the split ends of the T and fasten each end to the lower edge at the encircling bandage. The bandage should not cover the lower edge of the pads by half an inch. This is a good deal of detail, but it is all-important. The cloth square between the pads catches the moisture which goes through the cotton, and the one under the rubber will be wet while the cotton under it is dry. The rubber protects the bandage when the discharge is profuse. In dressing a movement, I simply fold back the cotton not soiled and gather off the feces with a square of soft paper, cleanse with part of the cotton pad and redress with new as may be necessary.

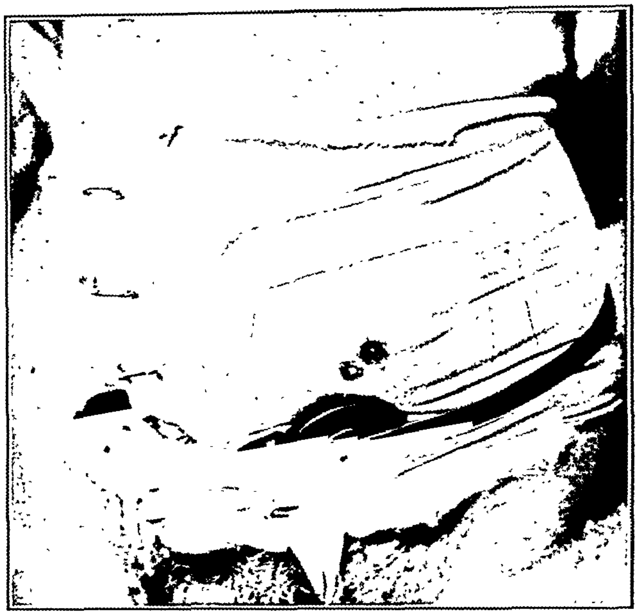

Fig. 2.—Front view showing truss and dressing (Case 3).

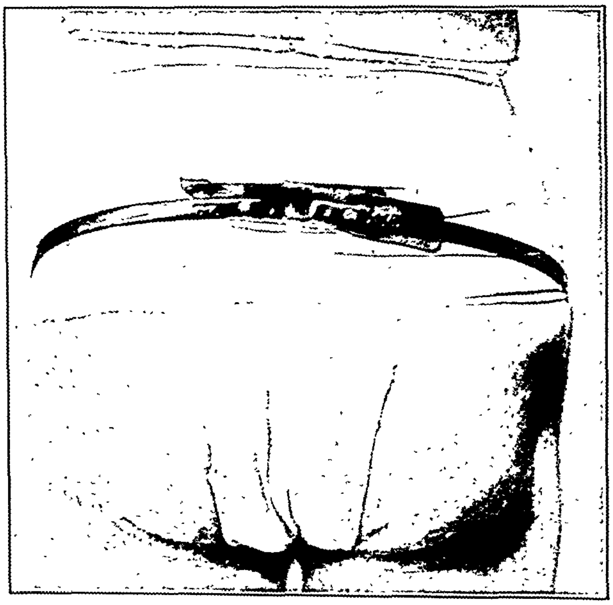

Fig. 3.—Back view showing truss and dressing (Case 3).

Next, standing, I adjust my truss; and let me say here that a truss is an absolute necessity. It is the only insurance against disastrous leakage down into the clothing of liquid feces. It constricts the lower edge of the bandage, holding it tight to the groin and making the bandage and pads a safe reservoir even with liquid discharges, if they are not too profuse. Of course if they are profuse all pads will be saturated, and sometimes there will be leakage. But it must be a bad discharge that gets so far. You will find a slit in the middle of the wide bandage. This is to catch the edge of the back flanges of the truss and prevent the truss from slipping down—another important detail. The bandage I send you is made up as I use it. Open it carefully. The patient must keep a few on hand. It is made of 40-inch brown muslin. The strip half as wide as the bandage makes two T's.

The culdesac, which you perhaps considered an experiment, has served its purpose in preventing prolapse of the bowel, leakage of mucus and pain in the surrounding muscular tissue. The discharge from it at the open end is negligible. Once in a great while I find a thimbleful of gray matter, soft and odorless, on the pad. Once I thought there must be some accumulation of it and I tried to void it by hanging down, head to the floor from the foot-rail of my bed and manipulating the posterior end with my hands, but with no result; so I ceased to bother about it. It gives me no pain except sometimes it swells when I strain my abdominal muscles to effect a movement.

HEMORRHAGE FROM THE MIDDLE MENINGEAL ARTERY

Case 4.—A young midshipman at Annapolis was injured in a football scrimmage. I first saw him three days after the occurrence of the accident.[4] His mental condition at that time was very dull, his headache was severe and he had had convulsions, chiefly in the right arm, though the right leg and entire side had been involved to some extent. Disregarding a bruise, the only physical evidence of injury, I opened his head, Nov. 19, 1902, about 3 inches away from the bruise, and removed nine tablespoonfuls of blood. He made an excellent recovery and, in spite of my injunction to drop back one year in the Academy, he studied extra hard, made up all his lost time, graduated with his class and entered on his career as an officer in the Navy.

Jan. 10, 1909, over six years after the accident, he was examined for life-insurance by Dr. Julius F. Lynch of Norfolk, Va. Dr. Lynch writes me, "I recommended him as a first-class risk and the policy was issued promptly."

A little over a month after the policy was issued he was killed by an explosion in a coal-bunker on the man-of-war then lying in the harbor of Naples. He knew the danger he ran in entering the bunker where there was believed to be a fire, but gallantly faced it, forbidding the men to enter until he himself had explored it.

The surgical interest of the case lies chiefly in the excellent physical condition found after so long a period subsequent to such a severe cerebral injury.

1729 Chestnut Street.

A CASE OF ANNULAR PAPULAR SYPHILIS IN A NEGRESS

HOWARD FOX, M.D.
NEW YORK

It is generally recognized that there are three distinct diseases which are more or less characteristic of the negro race, namely, keloid, elephantiasis and uterine fibroid. It is not so well known that there is a form of cutaneous syphilis, the so-called annular syphilid, which is also strikingly characteristic of the negro. This is an early manifestation of the disease and a modification of the flat papular or discoid syphilid. The lesions apparently begin as flat papules which enlarge peripherally and clear up in the center, forming circular elevated rings. By the coalescence of several rings, various gyrate and festooned patches are produced.

The annular syphilid is not only much more frequent in the colored than in the white race, but when present is much more extensive. The eruption is seen most often on the face, but may also occur on the trunk and extremities, especially the back. It appears as a rule during the first six or eight months after infection. By those who have had experience in observing skin diseases in the negro the diagnosis can generally be made with certainty at a glance. Without such experience the diagnosis of this form of syphilis may be puzzling.

The disease is most apt to be mistaken for ringworm or erythema multiforme. It should not be confused with the annular lesions of late syphilis, which are generally formed by groups of individual nodules. If the specific nature of the eruption is suspected, it is not difficult to confirm the diagnosis, as at this period there are generally other corroborative signs of the disease including a positive Wassermann reaction.

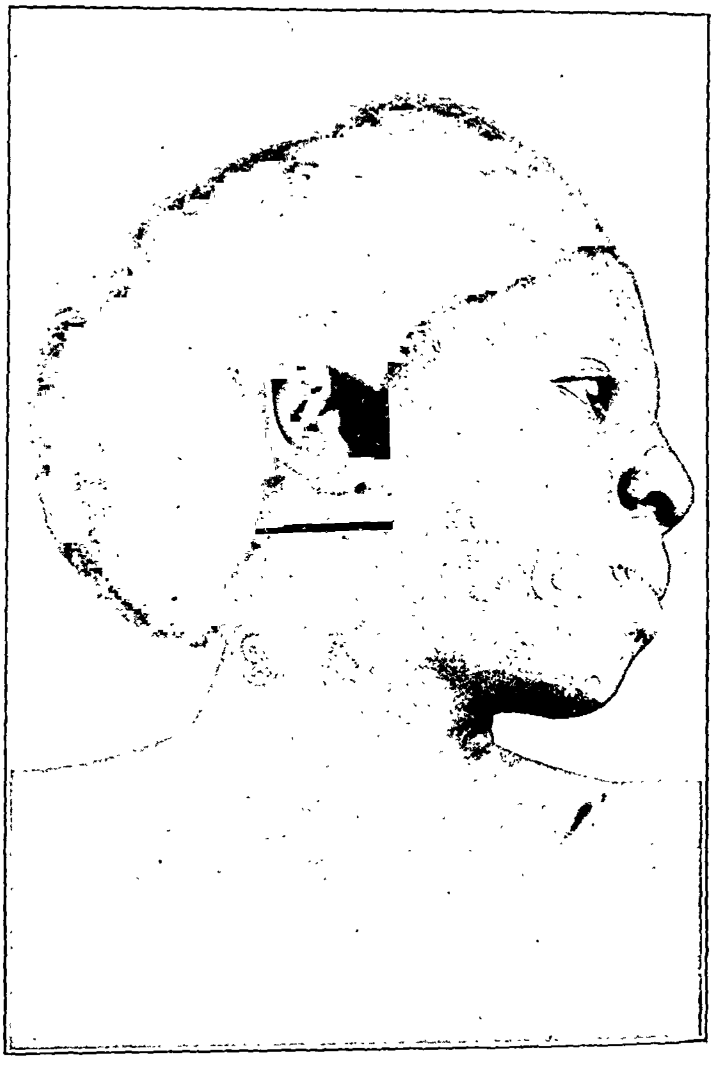

Fig. 1.—Eruption in annular syphilis on right side of face. Note semicircular figures at side of mouth and below nostril.

As I have discussed the subject of annular syphilis in the negro more fully in previous communications[1] I merely wish at this time to report a well-marked example of the eruption.

The patient, M. F., was a full-blooded negress of the Congo type, 19 years of age, born in Virginia. She was unable to give any intelligent description of the onset or course of the eruption. As with the majority of such patients, no history of infection was obtainable. The eruption had first appeared according to her statement about six weeks before the photographs were taken. Though the diagnosis of syphilis was fairly written on the skin, I made a Wassermann test for the sake of the record. It was strongly positive. The patient also presented a moderate angina and a general adenopathy.

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[4] This case was published in the Philadelphia Medical Journal, Dec. 13, 1902.

[1] Fox, Howard: Observations on Skin Diseases in the Negro, Jour. Cutan. Dis., 1908, xxvi, 67; The Annular Lesions of Early Syphilis in the Negro, Arch. f. Dermat. u. Syph., 1912, cxiii, 315.

The eruption was confined to the face, neck, sternal region and upper portion of the back. On the left side of the face it was especially profuse above the eye, nose and mouth. The most striking lesion was situated near the angle of the mouth. This consisted of a perfect circle, an inch in diameter, enclosing two other less perfect circles. The same tendency to form rings within rings was less shown in a patch above and to the outer side of the left eye. On the right side of the face there were several semicircular figures at the angle of the mouth and along the border of the jaw. A very characteristic lesion was present on the upper lip just below the nostril. This was a delicate semicircular ring with its convex border toward the mouth, which I have observed to constitute in another case the sole cutaneous manifestation of the disease. On the sides of the neck and over the manubrium and upper part of the back were other circinate and gyrate patches. One of these on the back showed an abortive attempt to form five concentric circles.

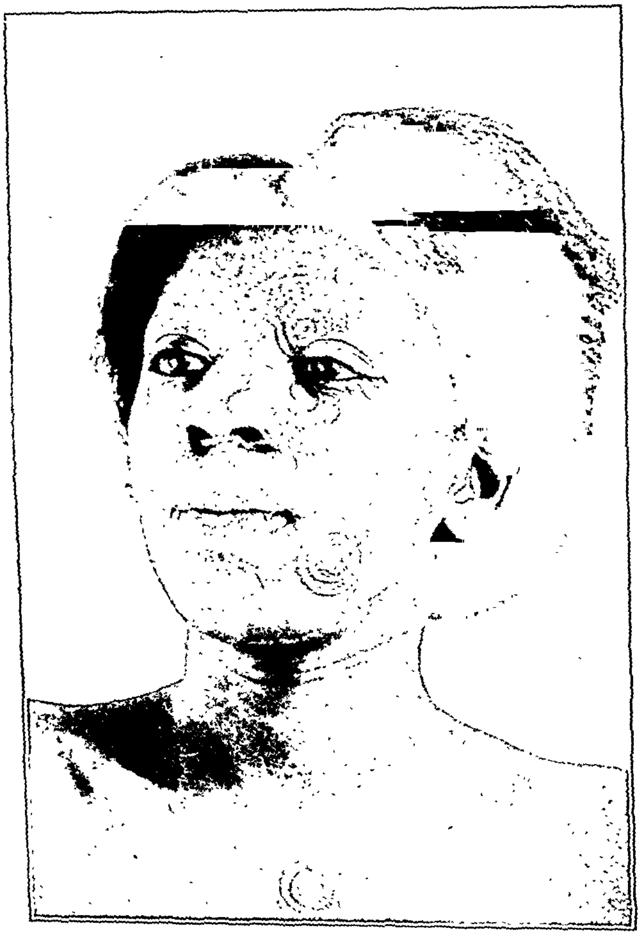

Fig. 2.—Eruption on left side of face. Note perfect circle enclosing circles at side of mouth.

The patient was difficult to control and left the clinic before the eruption had disappeared.

I am indebted to Dr. George T. Jackson for the privilege of reporting this case from his former service at the Vanderbilt Clinic.

616 Madison Avenue.

Endemic or Epidemic Poliomyelitis.—Although we refer to poliomyelitis as "epidemic," its incidence in any large population is always small even during epidemics. Occasionally, in a small group of people, a large percentage may be attacked, but considering any large group, as the population of a city, a county or a state, the attack-rate, even in so-called epidemics, is seldom more than one per thousand, usually even less.—W. H. Frost, *Am. Jour. Pub. Health.*

SPASMODIC TORTICOLLIS

NOTES ON THE ETIOLOGY IN TWO CASES *

WALTER F. SCHALLER, M.D.
SAN FRANCISCO

I employ the term "spasmodic torticollis" generically and do not wish to be understood as classing all conditions presenting this symptom (for it must be borne in mind that torticollis is a symptom and not, properly speaking, a disease) as a spasm. In fact, the object of this paper is to analyze the symptoms of two cases, which have come under my notice recently through the kindness of Dr. Emmet Rixford, in order to determine if possible whether we are dealing with a tic or a spasm.

Accepting the classification of Brissaud, we define a spasm to be a reflex movement due to an irritation somewhere along the pathway of the peripheral reflex arc; while a tic has its origin in the higher psychic functions and is the uncontrollable and often unconscious imitation of a purposive act. I shall recall the chief points of difference between a tic and a spasm by comparing their symptomatology. The mental state of the ticquer has often been noted. Whatever the ticquer's age, he presents the mental state of a lower age. He is apt to be poorly balanced in his attainments. The volition is weak and unstable. Impulsive manifestations are common. The ticquer is apt to be impatient. The emotions are often difficult of control. Obsessions are common. Together with the mental instability, there is often a motor instability manifested by a difficulty in conserving the immobility. These psychopathic symptoms do not form part of the picture of spasm.

The volition, efforts of attention and distraction modify a tic and may cause its temporary cessation. This does not happen in a spasm.

Tic is often preceded by an imperative desire, and the performance of the tic is followed by a feeling of satisfaction.

Certain antagonistic movements not of a forceful nature may be sufficient to control a tic, while these movements are quite inadequate in a spasm. I shall refer more in detail to these antagonistic movements in the case reports.

A tic ceases during sleep, a spasm persists.

The convulsive movements of a spasm are extremely brusque, resembling the muscular contraction caused by the electric current. The muscles involved correspond to the anatomic distribution of a nerve. If a portion of one nerve is involved the spasm may be partial or even fascicular as seen as a complication of facial paralysis. If the whole nerve is affected the convulsive movement may be quite unlike that produced by the performance of a purposive act. Thus Babinski has noted an asynergia of the muscular movements in cases of facial spasm, and called this condition paradoxical synergia. In this condition the forehead of the affected side is wrinkled by action of the frontalis muscle, while the eye is closed due to the action of the orbicularis palpebrarum, both of these muscles being innervated by the same nerve, the facial. This combination of movements cannot be produced simultaneously by effort of the will. A tic, on the contrary, is often a complicated associated movement calling different nerves and their muscles into play and has for its object an act with a definite purpose.

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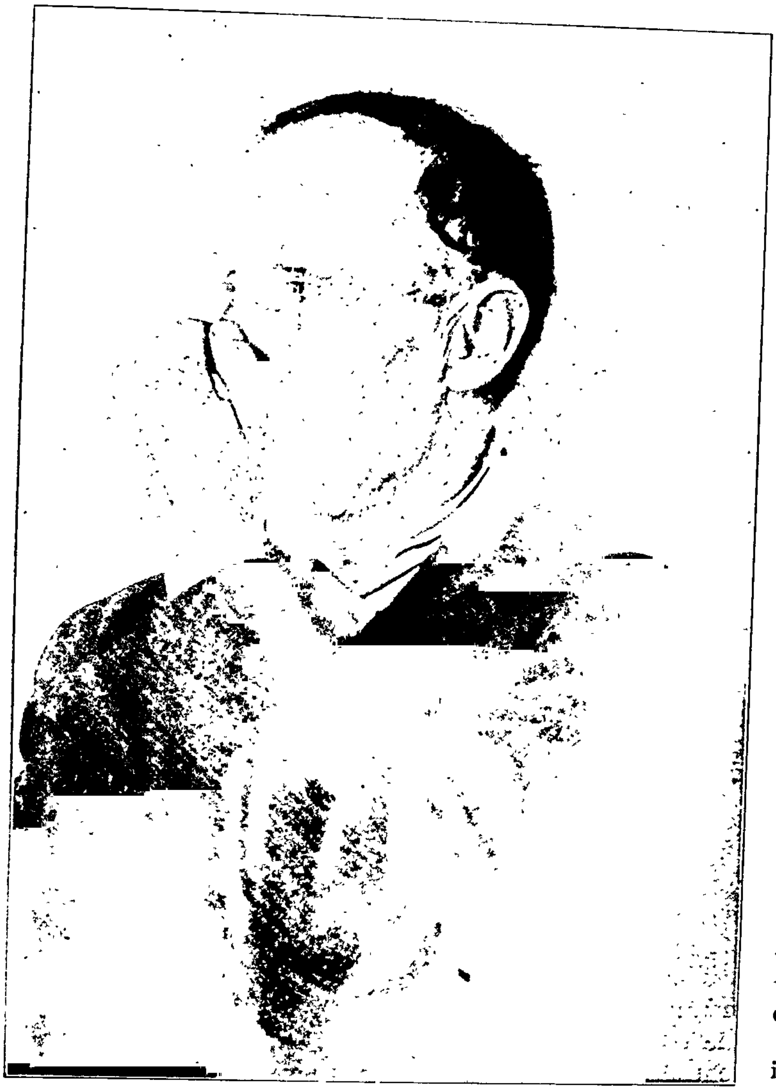
*From the Neurological Clinic, Medical Department Leland Stanford Jr. University.

*Read at the meeting of the San Francisco County Medical Society, Jan. 21, 1913.

Pain properly speaking may be the accompaniment of a spasm, but not of a tic.

A true tic is variable in intensity, varying from one day to another. A true tic is often benefited by treatment properly directed, such as exercises of control and due attention paid to the psychic elements of the case. A spasm is not influenced by the same methods.

The importance of a correct diagnosis is therefore evident, as the treatment of these two affections is entirely different. Let me bring out the chief points in the case histories of my two patients.



The *geste antagoniste efficace.*

Case. 1.—J. R., aged 47, unmarried, a laborer, is not handicapped apparently by hereditary nervous influences, as we can find no evidence of nervous or mental disease in his family history. As a child he was robust physically but inclined to be "nervous." He relates a story of how as a boy he went to have his picture taken. The ordeal of "posing," as he expresses it, caused an uncontrollable turning of his head to one side which was similar in some respects to the affection of which he now complains. He states that he is reserved and even bashful in company. He is of a retiring disposition but not a person whom one would call nervous in the generally accepted meaning of the term.

Present Trouble.—This dates back five years. It consists in an uncontrollable tonic contraction of the muscles at the back of the neck causing the head to turn to the left side. This movement is accompanied by some soreness in the muscles affected but there is no definite pain. In referring to our notes we find that this affection began after a particularly hard journey to Alaska where he also had financial difficulties associated with a mining claim. It appears that he was under considerable mental stress at that time. There is no history of his suffering from any illness. In searching for the pathogenesis of the affection the following was brought out. At first the head was inclined to turn to the right. To correct this, the patient conceived the idea of changing his position while working with his shovel (being right-handed his head followed the movements of his shovel to the right). He now changed his position and shoveled to the left, the head now turning to the left while he worked. Not only did he correct the torticollis to the right but he overcorrected it, and the head assumed the position to the left which it continued to occupy during the first attacks. After vainly seeking relief by internal medication, he placed himself in the hands of a Seattle surgeon who performed several operations on the left side of his neck. The scars of these operations are still plainly seen over the attachments of the sternocleidomastoid and trapezius muscles. These operations afforded the patient no relief. He later came under the care of Dr. Rixford. Dr. Rixford performed an operation directed toward removing the function of the splenius capitis and complexus muscles of the affected side. The operation was successful and the patient was much benefited. This last operation was performed about three years ago. About six months before the patient first came under my observation in November last, a torticollis set in on the opposite side, the right.

Examination.—The patient presented a torticollis due chiefly to the spasmodic contraction of the sternocleidomastoid and the trapezius muscles of the opposite side but it was observed that the elevation of the chin generally noted was very little marked. Pain was complained of in the muscles in the back of the neck on the left side. The head could be held directly forward without difficulty when the patient was at rest, as while sitting; as soon as walking was attempted the tonic contractions would take place. When he was asked to turn his head to the right side it would be spasmodically fixed in this position in spite of all effort to restore it to the original position by means of antagonistic muscles. But now the remarkable fact: If the patient would grasp the tip of his nose the head could be replaced by an exercise of force evidently too slight to overcome an actual spasm of such powerful muscles as those in question. We are dealing here with a symptom which Meige and Feindel in their monograph on tics speak of as *geste antagoniste efficace.* A physical examination showed no evidence of any organic or other disease present. No local cause could be found to account for the affection. The spinal column appeared normal. There was no history of rheumatism. The eyes were examined and found normal in every respect.

Diagnosis.—In view of the facts brought out, the psychic torticollis in childhood, the pathogenesis of the first attack and the means the patient takes to overcome the tonic spasm, a diagnosis of tic was made, or of torticollis mental of Brissaud.

Treatment and Course.—The treatment for this condition was instituted but was not followed by very satisfactory results, although some improvement was noted. The pain in the neck persisted. At the urgent request of the patient a radiograph of the cervical spine was taken. Proliferation of bone at the level of the fifth cervical vertebra was seen. Treatment was now instituted for an osteo-arthritis of the spine, and the possibility of a spasm due to an irritation of the spinal nerve roots was considered. Internal medication with the salicylates and potassium iodid, counter-irritation over the spine and spinal galvanization were in turn employed without beneficial results. Finally extension was used but with no better success. What help we were able to render this patient came from the treatment instituted for tic.

Case. 2.—C. E. R., aged 37, married and the father of two healthy children, is an inspector in the customs service and is assigned to night duty. He is apt to have insufficient sleep and his meals are often taken at irregular hours. In order to keep awake at night he has been in the habit of taking considerable coffee. Factors of importance to be noted in his history are that a brother of the patient is very eccentric in his conduct and at times does not appear to be perfectly normal mentally. His mother is what the patient calls "nervous" and on several occasions has had a nervous breakdown. The father died of arteriosclerosis at the age of 74. Besides the usual diseases of childhood the patient has had diphtheria and dysentery. In Manila in 1899 he had malaria. Following this he had two attacks of what he termed rheumatism. In 1909 he had an attack of pneumonia. The patient is said to have been rather backward at school and stammered when a boy, a habit from which he has not entirely recovered. He has remained in his present employ for a number of years without promotion. Whether deserving of promotion or not, the fact that he has not made any progress in his work has been a source of considerable chagrin to his family and himself. He is at present in a controversy with the customs department with a view to having day duty. In addition he has a source of worry in the settlement of his father's estate.

Present Trouble.—The torticollis from which our patient is a sufferer had its beginning directly following his return with the California Volunteers following the Spanish-American War. On account of his illness in Manila and the hardships of the life to which he was exposed, his health was considerably impaired. He had lost much in weight. His mother stated that his trouble began with a movement of his left hand to the neck and a slight rotation of the head. In 1902 the trouble had progressed to such an extent that the patient applied to Dr. Rixford for relief. At this time the head would incline almost to contact with the right shoulder, and while walking he was continually obliged to support the head with the hand of the same side. Several operations were done in which the spinal accessory nerve, the second cervical nerve, the sternocleidomastoid and trapezius muscles and finally the entire muscular mass involved in the contraction were divided. These measures were successful and the patient was relieved of his trouble until September of last year when there was a recurrence on the opposite side. It was at this time that I first saw the patient.

Examination.—There was an inclination of the head toward the left shoulder and a rotation toward the right shoulder with elevation of the chin. The head could be brought to the median line by a maneuver similar to the one employed in the first case; in this instance the gesture was with two fingers of the left hand. A very slight pressure thus applied was sufficient to redress the head. A point of tenderness was found at the exit of the great occipital nerve on the left side and spontaneous pain was complained of in this locality. When questioned as to the character of this pain, as to whether it was a soreness or a pain properly speaking, he found it difficult to determine this point. The patient's wife stated that the torticollis was less when his attention was diverted. During a performance at the theater, for instance, the torticollis has been observed to cease for the time being. The information was also obtained that the movements ceased during sleep, a very important point. The pathogenetic factor in this case was searched for and it was learned that before the torticollis was definitely established the patient noticed certain cracklings in his neck which were of some concern to him. He acquired the habit of reproducing these by movements of the head resembling the movements which have now become involuntary. Certain mental states aggravate his trouble. When he is annoyed and worried the torticollis is worse. In the physical status the only positive finding of importance was a systolic murmur at the base of the heart. The heart was not enlarged. The red blood-count was 4.500.000 and the hemoglobin was 65 per cent. by the Sahli instrument. The urine was normal. A radiograph taken of the cervical vertebrae showed nothing abnormal.

Treatment and Course.—Treatment was directed toward regulating the daily routine. The patient was advised to avoid all stimulants, such as the excessive use of coffee mentioned before. The importance of sufficient sleep and of regular hours for his meals was emphasized. He was told of the psychic element in the production of his affection and was told that in the method of treatment to be followed his active cooperation was necessary. The drugs to be given were in no sense curative but were in the nature of tonics. Three times a day he was to practice his exercises before a mirror as advised by Meige and Feindel. Furthermore, he was told to endeavor to control those emotions which he recognized had a tendency to aggravate his trouble. The torticollis seemed to improve at times and at others seemed to be stationary. Of late, however, there appears to have been a decided improvement permitting us to believe that we are on the right track and that the patient is being rewarded for the conscientious carrying out of the directions given.

SUMMARY

It will be seen that I have dwelt on the psychic symptoms in these two cases at length. I have done so because they stand out prominently in the histories of the cases and dominate the clinical picture. Both these men are neurotic. The character of the torticollis resembles that of a tic in the pathogenesis, in the character of the contraction (being a movement due to a tonic contraction, slow and resembling a definite movement adapted to a purpose, as opposed to a quick jerking movement resembling that due to the response to an electric current), in the absence of any severe pain and in the control of the movement by maneuvers which would be quite inadequate in a spasm.

It has been the object of this paper to throw some light on the nature of the affection in these two cases. I think that torticollis is very often to be classed as a tic.

126 Stockton Street.

PELLAGRA: SOME FACTS IN ITS EPIDEMIOLOGY *

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The purpose of this article is to present a few facts in the epidemiology of pellagra. These facts pertain to 323 cases of pellagra which were seen by me during the summers of 1911 and 1912 while engaged in the pellagra field-work undertaken by the United States Public Health Service. The object of this field-work was primarily to collect data which would show the character of the home environment of the pellagrins and the nature of the conditions under which the disease was developing; in short, to make a study of the disease from the standpoint of hygiene. It was thought that information bearing on these points, in a large series of cases, might be of some value in indicating a direction for some line of investigation which might possibly lead toward the discovery of the cause of the disease, or of a method of its transmission. With these points in view the facts in this article were collected and have been recorded here, with the hope that they may be of some interest now and of some value in the future, when supplemented by data from other sources.

During the progress of my work 200 or more physicians of Kentucky, South Carolina and Georgia were consulted, 296 pellagrous homes visited, and 323 pellagrins personally interviewed. The visits to the homes of the pellagrins were always made in company with the family physician. This rule was strictly adhered to. For collecting the data case-cards measuring 5 by 8 inches were used. These cards were numbered serially and are now on file. On the cards are spaces for notes pertaining to the following points: name, address, race, sex, age.

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* Modification of paper read at the second triennial meeting of the Association for the Study of Pellagra, Columbia, S. C., Oct. 3, 1912.

nativity, marital condition, occupation, family history, personal and pellagrous history; date and place of onset of first and of subsequent attacks; number and health of other members of the family; relation to other cases, and any facts bearing on heredity and contagion. In each instance an attempt was made to get some idea of the character and source of the food and water which had been used in the families. During the visits to the homes of the pellagrins notes were taken on the economic condition of the families and on the sanitary condition of the houses and premises. The relation of the homes to water-courses was noted, and also any other fact or circumstance which at the time seemed pertinent. On slight consideration it will be readily realized how many questions might be asked and what confusion of detail is possible, so that it was only between certain limits that the facts have been collected which I have attempted to put into communicable form in this article.

Geography, Topography, etc.—During my work visits were made to districts in twenty-five counties in which pellagra had been reported prevalent — three in Kentucky, seven in South Carolina, and fifteen in Georgia. The Kentucky counties visited are located in the southeastern portion of the state, which is a mountainous coal mining section. The other counties are located in the northern, the western, and the southern portions of South Carolina and Georgia and belong to the rich agricultural sections of these states. The main industries there are the growing and the weaving of cotton, but considerable attention is also paid to the cultivation of corn. The elevation of the counties visited varies from about 1,000 feet above sea level in Kentucky and north Georgia down to almost sea level in the southern portion of the latter state. Cases of pellagra were found to have developed at practically every elevation between these limits, but more cases were seen in the rolling upland sections than in either the mountainous or low country. All of these counties are well watered and possess good natural drainage, as is indicated by the presence of numerous streams flowing through them. Small ponds and swamps, however, are present in practically all of them and these are especially numerous in the lowlands of south Georgia, where a few of these cases developed. The climate of south Georgia may be termed subtropical, that of the other sections visited temperate and never extreme.

CONSIDERATION OF CASES

Distribution.—The 323 cases of pellagra which form the basis of this article are distributed among the three states as follows:[1]

Kentucky (three counties)	38 cases
South Carolina (seven counties)	161 cases
Georgia (fifteen counties)	124 cases
Total	323 cases

Race and Sex.—With reference to these points the cases are as follows:

	No.	Percentage.
White females	209	64.7
White males	91	28.2
Colored females	14	4.3
Colored males	9	2.8
Total	323	100.0

In the Kentucky counties which were visited negroes are in the minority, but in the South Carolina and Georgia counties they form a much larger proportion of the population and in places equal if not outnumber the whites.

Age.—According to age the 323 cases are grouped as follows:

Age.	No. Cases.	Age	No. Cases.
0 to 5 years	15	45 to 50 years	23
5 to 10 years	23	50 to 55 years	21
10 to 15 years	11	55 to 60 years	20
15 to 20 years	12	60 to 65 years	11
20 to 25 years	42	65 to 70 years	8
25 to 30 years	34	70 to 75 years	4
30 to 35 years	37	75 to 80 years	1
35 to 40 years	38	Above 80 years	0
40 to 45 years	23		
			323

Marital Condition.—The marital condition of these pellagrins is as follows:

Single	83,	males 43,	females 40
Married	208,	males 50,	females 158
Widowed	32,	males 7,	females 25

Date of Onset.—On account of the vague nature of the early symptoms of the disease it was impossible to determine the exact date of the onset of the first attack in all of them. The year of onset, however, was determined in 317 of the 323 cases, but the month of onset was determined with a fair degree of accuracy only in 181 of them. The dates as determined with reference to the years and months are given below with the number of cases having their onset in each.

Year of Onset.	No. Cases Seen in 1911.	No. Cases Seen in 1912
1912	0	53
1911	65	86
1910	30	29
1909	7	21
1908	8	5
1907	3	2
1906	2	1
1905	3	0
1902	1	0
1900	0	1
Not determined	2	4
Total	121	202

The month of onset of the 181 cases is shown in the following table:

Month of Onset.	No. Cases.	Month of Onset.	No. Cases.
January	2	July	25
February	11	August	14
March	18	September	4
April	27	October	5
May	37	November	2
June	36	December	0
			181

Occupation.—There is given below a list of the occupations which constituted the source of income of the families furnishing this series of cases, along with the number of cases in each group:

Occupation	Total No. Cases	Men	Women	Children under 15
Factory	148	31	97	20
Mining	26	5	15	6
Agriculture	48	12	29	7
Trade	23.	11	6	6
Clerical	18	8	5	5
Railroad employment	5	2	1	2
Professional work	5	2	2	1
Miscellaneous (laboring)	45	6	36	3
Without occupation	5	5	0	0
Total	323			

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[1] These numbers are approximately in proportion to the lengths of time spent in each state, and should not be taken as indicating comparative prevalence. In addition to this number there were reported to me by physicians in these counties 672 non-fatal and 431 fatal cases which make a total for the 25 counties of 1426 cases. All of these cases were considered in my official report to the Surgeon-General (Public Health Reports, March 7 and 14, 1913).

Environment and Living Conditions.—Examination of the list of occupations given above will furnish some idea of the general status of the people among whom the cases of pellagra in this series developed. The factory people were mostly of the cotton-mill class, a class quite common in South Carolina and Georgia. These people live in little villages located around the cotton-mills in which they work. Very few of them own their own homes or seem to care to, but live in cottages owned by the milling companies. They are nomadic in character and move from village to village as the notion strikes them. As a class they appeared to be poor, overworked and underfed, and to be living on what they earned from day to day or week to week. Although in many instances the total earnings of the working members of the families appeared quite sufficient for comfortable living, they did not seem to understand the art of applying this income towards the betterment of their living conditions. Many of the women and girls of this class work in the cotton-mills and contribute to the support of their families. Early marriages and large families are the rule among them. In the counties of South Carolina and Georgia which I visited pellagra was found to be much more prevalent among the people of this class than among those of any other. In some of the villages visited the pellagra situation was alarming.

The pellagrins among the mining class were for the most part members of families of coal-miners. They were living in small houses and shacks owned by the mining companies and located on the hillsides near the coal-mines. They were found to be living a hand-to-mouth existence, depending for their support on the daily wages of the workers in the mines. The majority of them were living amid squalid surroundings, and many of them lacked even the rudiments of an ordinary school education.

The forty-eight pellagrins of the agricultural class were mostly of families of "renters" or "croppers." Some were land-owners, a few of whom appeared prosperous. Many, however, were typical "Georgia crackers." The majority of the pellagrins in the remaining groups, while living in towns and in an environment somewhat better than that found in the mill villages and mining camps, still were living under conditions far below the average. A few, however, were enjoying the comforts of an environment which was far above the average.

Economic Condition.—An estimate of the economic condition was made in each instance. The results of these estimates are shown below:

Economic condition	No. Cases
Poverty	258
Comfort	59
Affluence	6
Total	323

CONSIDERATION OF HOMES

Location.—A classification of the homes is given here with reference to location:

A. With reference to population (at time of onset).	No.
In a cotton-mill village	142
In a coal-mining camp	24
In a town or suburbs	92
In the country	58
In a city	7
Total	323

B. Distance from watercourses (at time of my visit).	No.
0 to 50 yards	31
50 to 100 yards	35
100 to 200 yards	49
200 to 500 yards	118
500 yards to 1 mile	51
1 to 3 miles	10
Distance not determined	29
Total	323

Sanitation.—The sanitary condition of the homes of the pellagrins in this series has been classified as follows:

Sanitary condition	No.
Good	11
Fair	36
Bad	249
Not visited	27
Total	323

GENERAL CONSIDERATIONS

Insects.—From the standpoint of entomology the great majority of the pellagrous homes visited in this work would, without doubt, have furnished interesting material for study. The ordinary bedbug was found to be present in some of the homes, was acknowledged to be present in others, and in very few indeed were conditions such as to lead one to suspect the absence of this and of other ectoparasites of man. It was the exception to find a pellagrin living in a screened house, although mosquitoes were said to be present in all of the districts visited. Malarial fever was reported to be common in some of the districts, but in others it was said to be practically unknown. Ordinary houseflies were present in practically all of the homes visited and were especially numerous in many of those where a pellagrin was confined to bed. The fly *Simulium* was found to be breeding in a number of the districts, but was not looked for in all of them. Two granaries, from which corn had been taken for families in which pellagra had developed, were inspected and were found to be heavily infested with weevils and moths.

Water-Supply.—The source of the drinking-water at the time of the onset of the disease in these cases was determined and is as follows:

Source		No.
Wells:	Bored	50
	Dug	109
City or town supply		62
Well and city supply		12
Cisterns (stored rain-water)		6
Surface water (wells, creeks, springs)		66
Varied		18
Total		323

Food.—It was learned that the great majority of the pellagrins in this series had been subsisting almost exclusively on food bought at the stores. The families among the cotton-mill and coal-mining classes were practically entirely dependent for their supplies on the small stores in the villages and camps, and despite the rural location of the homes of the pellagrins of the agricultural class they too were found to depend to a considerable extent for their food on the country grocery store. It was the exception to find a pellagrin who could state that even the major part of the food used in the family had been home grown. Necessarily the lines and quality of the groceries sold at these stores are regulated largely by the finances, the tastes and demands of the patrons, and judging on this basis it can be said that the quality of goods sold at most of these stores was certainly not of the best, nor were these goods of the freshest. A list of articles of food having the largest sale at a store patronized by a number of people in whom pellagra had developed was made up for me by the store-keeper. This list, although presenting considerable variety, showed that much of the food used had undergone some process for its preservation, such as dessication, canning, etc. It seemed to be the consensus of opinion of the doctors practicing among these people that most of them were not receiving the proper quality and quantity of food, and that even when obtained in sufficient quantity it received hasty and incomplete culinary preparation. No constant difference, however, was found to have existed between the diets of the pellagrous and non-pellagrous members of the families.

Indian Corn.—Each one of the pellagrins considered here gave a history of the more or less regular use of corn products as articles of diet. Some acknowledged only a limited use of them, while others stated that they had "lived on corn-bread and hominy." Hominy and meal seemed to be the forms of corn in most common use, and in all except three instances some of the meal used by the pellagrins previous to the onset of the disease had been obtained at the stores, and in most instances all of that used had been so obtained. The stores were found to handle both locally grown corn and corn and meal imported from other states. The local mills of the districts visited were also found to grind both kinds, so it was practically impossible to determine the relative amounts of each which were being used by the people. In considering the subject of corn in its possible relation to pellagra in the districts visited, it must be remembered that these districts belong to the great corn-eating section of the country, where for many years corn, in one form or another, has been one of the main articles of diet for all classes, and where for many years the demand for corn has not been equaled by the local supply. This situation implies importation, which often requires considerable time for transportation, storage, and handling.

Relationship Between Cases.—Some of the gross relationships of the cases were determined by asking the pellagrins questions bearing on this point. These have been classified and appear below:

1. Case relationship in the families (same houses):	No.
A. Families having 1 case	264
B. Families having 2 cases	23
C. Families having 3 cases	6
D. Families having 4 cases	2
E. Families having 5 cases	1
2. Propinquity and contact relationships (miscellaneous):	
A. No known relationship to another case of pellagra	91
B. Previous to onset had temporary association (as visit) with another case of pellagra	24
C. Onset while living in the immediate vicinity of a pellagrin	148
D.[2] Onset while living in the same house with a pellagrin	50
E. Onset while living in a house previously occupied by a pellagrin of another family	10
3. Relationships in food-supply (stores):	
A. Stores among whose patrons 1 case of pellagra developed	43
B. Stores among whose patrons 2 cases of pellagra developed	13
C. Stores among whose patrons 3 cases of pellagra developed	6
D. Stores among whose patrons 4 cases of pellagra developed	4
E. Stores among whose patrons 5 cases of pellagra developed	4
F. Stores among whose patrons 7 cases of pellagra developed	2
G. Stores among whose patrons 10 cases of pellagra developed	1
H. Stores among whose patrons 13 cases of pellagra developed	1
I. Stores among whose patrons 19 cases of pellagra developed	1
Total number of stores	75

These seventy-five stores were located in nine of the districts which I visited and in which pellagra was especially prevalent. It is believed that a complete canvass of the patrons of these stores, had it been possible to make it, would have brought to light more cases of pellagra than were actually seen. In these nine districts, as well as in others, the doctors reported to me many cases of well-developed pellagra which I was unable to see, and besides in these districts there were quite often seen persons who presented symptoms which greatly simulated those of pellagra, but to a degree not sufficient for a positive diagnosis. The presence of these borderline cases seems to me to be of considerable importance in considering the pellagra situation in a family or in a community.

Heredity.—None of my observations in this work has led me to believe that pellagra is hereditary. Of 58 children whose mothers had developed pellagra within one year after the birth of the child, 9 were dead (cause undetermined), but none was pellagrous; of 18 children whose mothers had developed pellagra within one year before the birth of the child, 2 were dead, but none of the living was pellagrous. Of 30 infants, who were being nursed by pellagrous mothers, none was pellagrous at the time of my visit, 6 were not well, and 24 were healthy.

Predisposing Conditions.—Of the diseases which were reported to me by the pellagrins and their physicians as belonging to their prepellagrous history and which seemed to have favored the onset of the disease may be mentioned the following: typhoid fever, septicemia, pneumonia, asthma, whooping-cough, pulmonary tuberculosis, renal tuberculosis, malarial fever, syphilis, hookworm disease, small-pox, measles, alcoholism, morphin habit, lead-poisoning, diseases of the digestive system, as "indigestion," chronic constipation and others which might easily have been some of the early symptoms of pellagra, fistula, diseases of the gall-bladder, Bright's disease, anemia, muscular atrophy, poliomyelitis, paralysis, epilepsy, migraine, neurasthenia, arthritis deformans, "rheumatism," idiocy, imbecility; those referable to the sexual organs and reproductive function in the female, as puerperal fever, eclampsia, salpingitis, lacerations of the perineum, menstrual disturbances, pregnancy and lactation. Operations and injuries seemed to figure to no small extent. Mental states, such as grief and worry, seemed to have paved the way for the development of pellagra in a number of instances. In not a few instances, however, it was not possible for me to determine, at least in the limited time at my disposal, just what might have acted as a predisposing cause.

The fact that 258 of the 323 of these pellagrins developed the disease under conditions of poverty cannot be without significance. The conditions of living, found in the great majority of these instances, including lax domestic and personal hygiene, and especially the questionable character of their food, seemed to have favored in some way the development of pellagra. I am inclined to think that the food used by these people contained elements which acted as a contributing cause of the pellagra among them, and probably also as the exciting cause.

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[2] Includes B, C, D, and E in Group 1 above.

SUMMARY

From the facts in the foregoing article summaries may be made with reference to the following points:

Race.—More cases developed among the whites than among the negroes.

Sex.—More cases occurred among the females of both races than among the males.

Age.—More cases developed at ages between 20 and 40 years than at other ages.

Marital Condition.—Among the married and widowed pellagrins the females predominate; the single pellagrins are equally divided between the sexes.

Dates of Onset.—More cases had their onset during the months of May and June than in other months, and more in 1911 than in any previous year.

Environment.—More cases developed under conditions of poverty than of comfort, and more under conditions of comfort than of affluence.

Relationship of Cases.—More cases developed in the vicinity of other cases than otherwise.

Heredity.—None of the facts seem to indicate that pellagra is hereditary.

Food.—The food used by the people in whom pellagra is prevalent deserves consideration as a possible etiologic factor.

The most promising field for the investigation of the etiology of pellagra is the food being used by the people in whom pellagra is developing.

Marine Hospital.

Therapeutics

PRESCRIPTION NONSENSE

The following is an actual prescription submitted for criticism by The Journal:

℞	Bismuth subnitrate	ʒ iv
	Bismuth subgallate	ʒ iv
	Sodium bicarbonate	ʒ ii
	Codein sulphate	gr. viii
	Morphin sulphate	gr. ii
	Chloroform water	ʒ iv
	Essence of pepsin q.s. ad	℥ iv

M. Sig.: ʒ ii every three hours.

The most self-evident mistake in this prescription is the absurdity of combining the action of codein and morphin. The action is very similar, with a little less liability of the codein causing constipation and drying up the secretions. On the other hand, one should decide whether one wishes the codein action or the morphin action, remembering the above-mentioned slight difference and the fact that codein does not stop pain as does morphin, unless the dose is very large. The dose above advised would give the patient every three hours about 0.04 gm. (2/3 grain) of the codein and 0.01 gm. (1/6 grain) of the morphin. This means, when administered every three hours, a large dose of these narcotics. It should be remembered that although 2 fluidrams are ordered, unless a measuring glass is used, the patient will get 2 teaspoonfuls at a dose, and 2 teaspoonfuls represent 10 c.c. or more than 2 fluidrams. In other words, the prescription given above amounts to about twelve doses.

It would not seem good judgment to combine the subnitrate of bismuth with the subgallate of bismuth. If one is needed the other is not. The subgallate is a little more astringent than the subnitrate, but a combination of the two is rarely needed. In the next place, the administration of these two insoluble drugs in a liquid is almost inexcusable. Even a mucilage, or glycerin, or other thick suspending medium would hardly cause an equal dosage of the bismuth. The bismuth will stick in the bottom of the bottle, cling to the sides, and even with persistent shaking there will be irregular amounts of bismuth in each dose. Either the bismuth subnitrate or the bismuth subcarbonate or the bismuth subgallate should be selected, and then it should be administered either in powder or in wafer. There is an ounce of the combined bismuth, that is, 32 gm., to be administered in about twelve doses.

Of course it is presumed that the 4 drams of chloroform water means 4 fluidrams. The chloroform water will certainly give a characteristic taste to the mixture. Chloroform water, however, is very uncertain. From the Pharmacopeia it is not clear exactly how much chloroform will be found in the 4 fluidrams of chloroform water. In other words, it is much better to add as much of the official spirits of chloroform as is desired by the physician.

The object of the essence of pepsin is, of course, uncertain. No fluid preparation of pepsin is sufficiently dense to suspend the insoluble bismuth. Also, it is a mistake to think that a dash of pepsin will aid in causing the stomach to care for a multiple mixture or for an irritant drug. There are no irritant drugs in this preparation, and it is not necessary to cause the patient to pay for an expensive preparation of pepsin in order for the above drugs to be administered. As a digestant the pepsin would be useless when combined with the sodium bicarbonate (as an alkali prevents the activity of pepsin), and it could not well act when combined with such sedatives as codein and morphin. Also, it is not certain what the chloroform would do to the pepsin. In a nutshell, the above prescription does not represent good practice from any standpoint.

A LAST PLEA FOR A USEFUL PHARMACOPEIA.

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Shall we have the United States Pharmacopeia up to date and of scientific and therapeutic value, or shall it be a book of ancient drug lore intermixed with drugs of real value?

It is now nearly three years since the Pharmacopeial Convention of 1910, and what has been accomplished? Many of the drugs which have been approved have already been announced, and, as it has wisely been determined that a subject of such wide, almost universal, interest as the United States Pharmacopeia should not be made a secret affair—in other words, that its decisions should be public, what follows is not a breach of confidence. The subject, in every detail, is one of public interest, and, therefore, should be of public knowledge.

In this age of exposure of "patent-medicine" frauds, and the age of education as to the danger of some drugs, the uselessness of others, and the limitations of all, the people have a right to expect that the next Pharmacopeia will be a book that can be relied on as a standard of purity and of chemical and pharmaceutical perfection in all its drugs and preparations. They have a right to expect that this book will represent the drugs found by medical experts to be of the best therapeutic value at this date, namely, 1913 A. D.

Can there be any other guide for the acceptance of a drug or preparation for officialization in an up-to-date book of this age than that:

1. The drug must have therapeutic value.
2. The drug must be pure.
3. The preparations must be the best.

What, then, determines the best drug? Investigations in the laboratory and clinical experience—and almost every drug that is known to have clinical value shows laboratory activity. If a drug has no activities, or only dangerous activities when used on animals in the laboratory, it is not a drug that should be dignified by recognition in a 1913 book of standard valuable drugs.

SELECTION OF DRUGS FOR THE PHARMACOPEIA

At the convention in 1910 it was stated that the selection of drugs was peculiarly the duty of physicians, while the selection or determination as to which were the best preparations, and how they should be made, was the duty of the pharmacist. How has this been lived up to?

In the first place, fifty members of the Pharmacopeial Convention were elected a Committee on Revision. Of these fifty, only six are practicing physicians; i. e., only six members of this Committee on Revision are qualified to judge at the bedside of the value of the action of a drug, although several members are medical laboratory men and are well qualified to decide on the activities of drugs.

Next, through the stimulation of various agencies, many of the medical societies of the country appointed special committees who prepared lists of drugs they considered valuable, and of drugs they considered should be omitted from the next Pharmacopeia. These lists, in due time, reached the office of the chairman of the Committee on Revision, Professor Remington, and he, at great office trouble and considerable expense, circularized these lists to the Committee of Fifty.

To show how helpful these lists of drugs were, I will quote the opinion of one member of the Revision Committee, not a physician, concerning them, which was circulated to all of the members of the committee. This circularized opinion (italics mine) is as follows:

> "*The Revision Committee may wisely forget about nine-tenths of the well-meant advice which has come to it . . . .* thankful for the interest shown by an increasing number of physicians."

How many other members of the Committee on Revision agreed with this opinion I am not able to state, but the outcome of the present list of accepted drugs and preparations for the next Pharmacopeia shows that the Executive Committee, the committee of final decision as to what drugs shall appear in the next Pharmacopeia, did not care an iota what drugs these medical societies approved or what they disapproved. In other words, little if any notice was taken of these lists so carefully prepared by some of the medical societies of the country. Those who prepared these lists should know this fact.

The approval by the Executive Committee of drugs of no therapeutic value and their consequent officialization causes them, of necessity, to be described in text-books on materia medica and consequently to be used by physicians. A study of 117,000 prescriptions collected from different parts of the United States showed the number of times therapeutically useless drugs were ordered. The data thus obtained has been used as an excuse for officializing these drugs in the next Pharmacopeia. These will again be copied and described in materia medica books, and the next graduates in medicine will again prescribe these drugs, and the vicious cycle will persist.

A Subcommittee on Scope voted on the drugs of the last Pharmacopeia, as to whether they should be accepted for the next Pharmacopeia or whether they should be omitted. The chairman of this committee dissolved favorably to admission a large number (65) of tied votes. These lists of acceptances and deletions were then sent to the Executive Committee. The Executive Committee is the court of last appeal, and consists of the chairmen of the different subcommittees, fifteen in number. This committee has the power of approving or overruling any decision of the Subcommittee on Scope, and exercised this power liberally. It also did not hesitate to admit some preparations that had never even had the formality of a vote by the Subcommittee on Scope.

PERSONNEL OF COMMITTEES

Now, who are these members, elected from the convention by accredited delegates from the medical societies, medical colleges, pharmaceutical societies, pharmaceutical colleges and from several departments of the Government of the United States? For our purpose it is not now necessary to enumerate all the members of the Committee on Revision, but only those who constitute the Subcommittee on Scope, and those who constitute the Executive Committee, namely, the chairmen of the fifteen subcommittees.

The Subcommittee on Scope consists of:

Name	*Position Held*
S. Solis-Cohen, M.D., Chairman	Prof. Clin. Med., Medico-Chi. Coll.
Reid Hunt, M.D	In Hygienic Laboratory, U. S. P. H. S.
Philip Marvel, M.D	Practicing physician; Trustee A. M. A.
O. T. Osborne, M.D	Prof. Therapeutics, Yale Univ.
H. H. Rusby, M.D	Pharmacologist; Prof., N. Y. Coll. Pharm.
Torald Sollmann, M.D	Prof. Pharmacology, Western Reserve Univ.
H. C. Wood, Jr., M.D	Pharmacologist; Prof. Pharmacology and Thera., Medico-Chi. Coll.

The Executive Committee consists of:

S. Solis-Cohen, M.D	Prof. Clin. Med., Medico-Chi. Coll.
Torald Sollmann, M.D	Prof. Pharmacology Western Reserve Univ.
J. F. Anderson, M. D	Hygienic Laboratory, U. S. P. H. S., Washington.
Henry Kraemer, Ph.D	Prof. Botany, Phila. Col. of Pharmacy.
Charles H. LaWall, Ph.D	Pharmacist and consulting chemist; Prof. Phila. Coll. of Pharmacy.
George D. Rosengarten, Ph.D	Chemist of Powers-Weightman-Rosengarten Co., mfg. chemists
A. D. Stevens, Ph.D	Pharmacist; Prof. Sc. Pharm., Univ. of Mich.

H. W. Wiley, M.D., Ph.D.	Chemist; Ex-Chief U. S. Bureau of Chemistry.
G. M. Beringer, Ph.M.	Pharmacist in retail business.
C. L. Diehl, Ph.M.	Pharmacist (retired); Emeritus Prof., Louisville Coll. of Pharmacy.
W. C. Alpers, Sc.D.	Pharmacist in retail business.
Otto Raubenheimer, Ph.G.	Pharmacist in retail business; Editor *Practical Druggist.*
Wilhelm Bodemann, Ph.G.	Pharmacist in retail business.
A. B. Lyons, A.B., M.D.	Pharm. Chem., with Nelson, Baker & Co., Mfg. Chem.
Chas. Caspari, Jr., Phar. D.	Pharmacist; Prof., Univ. of Md.; Commissioner, Md. State Bd. Health.

Of this "court of last resort" there is one physician who practices at the bedside (Dr. Solis-Cohen), one who is a medical laboratory expert on the activities of drugs (Dr. Sollmann), one who is a drug laboratory expert at the Hygienic Laboratory (Dr. Anderson), and one who is a food and drug expert (Dr. Wiley); the other eleven are interested in some branch of pharmacy. These facts in conjunction with the way some, at least, of the pharmacal members look on recommendations of the medical men will show how much in evidence was the axiom that "physicians should decide what drugs should enter the Pharmacopeia."

At this date the new Pharmacopeia will contain at least 845 drugs and preparations. About half of these are not needed. One hundred and fifty-eight drugs and preparations were recommended for omission from the last Pharmacopeia by the Subcommittee on Scope. Just half of these, namely, seventy-nine, were voted in by the executive committee over the adverse recommendation of the Subcommittee on Scope, and it should be remembered that only one member of this executive committee is a physician practicing at the bedside, and he, in the Subcommittee on Scope, in sixty-five tie-votes, had decided in favor of admitting the drug under discussion. In other words, sixty-five more drugs and preparations would have been deleted by the Subcommittee on Scope had its chairman not voted in their favor, and he still had one more vote coming to him in the Executive Committee decisions.

USELESS DRUGS ACCEPTED FOR THE NEXT PHARMACOPEIA

It was "love's labor" absolutely "lost" to collect 117,000 prescriptions from all over this country in order to ascertain how many times a given drug or preparation was ordered. How many times a drug or preparation is ordered is no criterion as to its value. Beer is in enormous demand, but it has not yet been shown that it has any medicinal or food value. Is the nutrient value of a food determined by the frequency with which it is used? The turnip is a vegetable that is constantly bought and constantly eaten, but its food value is almost nil. The Pharmacopeia is supposed to be a book of standards for drugs, and each drug should have some valuable activity.

As previously stated, *if a physician desires to order a second-rate drug, he can always obtain it by the standard* (if there was one) *described in the last Pharmacopeia in which it was named.* If this were not a fact, and if it were not a recognized fact, deletions of drugs from previous Pharmacopeias would not have taken place. Such deletions (omissions) have occurred, and a large number of drugs which appeared in the last Pharmacopeia will not appear in the next, according to the approved deletion list of the Executive Committee.

If some drugs have been deleted on account of their lack of value, why may not all drugs which are without value be deleted? The argument of those members of the Revision Committee who desire a large Pharmacopeia is that a drug should be accepted and standardized, if some physicians desire that drug. The same argument would hold good for the very drugs that these men have deleted, and therefore this is an argument of no value for officializing drugs that are worthless.

It should constantly be borne in mind that the greater the number of drugs officialized, the greater the number of preparations that must be made, the greater amount of manufacturing that must be done by the pharmaceutical houses, and the greater the amount of buying that must be done by the retail druggist; in other words, the decision as to whether a useless drug shall enter the Pharmacopeia or not, is a commercial one. Will the medical men of the country stand for commercialism as determining whether or not a substance shall be officialized in the next Pharmacopeia, a supposed book of dependable values of useful drugs?

The following useless drugs and their preparations have been accepted at this date, April, 1913, for the Ninth Decennial Revision of the United States Pharmacopeia. It is, of course, supposable that many physicians will disagree with me in considering these drugs as of little value. Will anyone assert that any one of them is needed to cure a patient of an ailment, or to treat a condition, that may not be better treated by more active drugs?

Anthemis (Chamomile)
Arnica
  Tinctura Arnicae
Berberis (Oregon Grape Root)
  Fluidextractum Berberis
Calendula (Marigold)
  Tinctura Calendulae
Calumba (Calumbo)
  Fluidextractum Calumbae
  Tinctura Calumbae
Cannabis Indica (Indian Hemp)
  Extractum Cannabis Indicae
  Fluidextractum Cannabis Indicae
  Tinctura Cannabis Indicae
Chondrus (Irish Moss)
Cimicifuga (Black Snakeroot)
  Extractum Cimicifugae
  Fluidextractum Cimicifugae
  Tinctura Cimicifugae
Condurango
Convallaria (Lily of the Valley)
  Fluidextractum Convallariae
Crocus (Saffron)
Eriodictyon (Yerba Santa)
  Fluidextractum Eriodictyi
  Fluidextractum Eriodictyi Aromaticum
Frangula (Alder Buckthorn)
  Fluidextractum Frangulae
Gambir (Pale Catechu)
  Tinctura Gambir Composita
Gossypii Cortex (Cotton Root Bark)
  Fluidextractum Gossypii Corticis
Grindelia
  Fluidextractum Grindeliae
Guaiacum (Guaiac)
  Tinctura Guaiaci
  Tinctura Guaiaci Ammoniata
Haematoxylon
  Extractum Haematoxyli
Hydrastis (Goldenseal)
  Fluidextractum Hydrastis
  Glyceritum Hydrastis
  Tinctura Hydrastis
Kino
  Tinctura Kino
Krameria (Rhatany)
  Fluidextractum Krameriae
  Tinctura Krameriae
Lactucarium
  Syrupus Lactucarii
  Tinctura Lactucarii
Leptandra (Culver's Root)
  Extractum Leptandrae
  Fluidextractum Leptandrae
Lupulinum
  Fluidextractum Lupulini
  Oleoresina Lupulini
Matricaria (German Chamomile)
Mezereum
  Fluidextractum Mezerei
Moschus (Musk)
  Tinctura Moschi
Oleoresina Petroselini (Parsley) (Apiol)
Oleum Hedeomae (Oil of Pennyroyal)
Pareira
  Fluidextractum Pareirae
Phytolacca (Poke)
  Fluidextractum Phytolaccae
Pyrethrum (Pellitory)
  Tinctura Pyrethri
Quassia (Bitterwood)
  Tinctura Quassiae

Quillaja (Soapbark)
  Tinctura Quillajae
Rhus Glabra (Sumach)
  Fluidextractum Rhois Glabrae
Sabal (Saw Palmetto)
  Fluidextractum Sabal
Sanguinaria (Bloodroot)
  Tinctura Sanguinariae
Sarsaparilla
  Fluidextractum Sarsaparillae
  Fluidextractum Sarsaparillae Compositum
Senega (Senega Snakeroot)
  Fluidextractum Senegae
  Syrupus Senegae
Serpentaria (Virginia Snakeroot)
  Fluidextractum Serpentariae
  Tinctura Serpentariae
Staphisagria (Stavesacre)
  Fluidextractum Staphisagriae
Stillingia (Queen's Root)
  Fluidextractum Stillingiae
Sumbul
  Extractum Sumbul
  Fluidextractum Sumbul
Taraxacum (Dandelion)
  Extractum Taraxaci
  Fluidextractum Taraxaci
Triticum (Couch Grass)
  Fluidextractum Tritici
Uva Ursi (Bearberry)
  Fluidextractum Uvae Ursi
Xanthoxylum (Prickly Ash)
  Fluidextractum Xanthoxyli
Zea (Corn Silk)
  Fluidextractum Zeae

There is no good proof that hydrastis preparations have any special action on mucous membranes when used externally. There seems to be no good excuse for giving the disagreeable hydrastis preparations internally for action on the stomach.

Cannabis indica is a drug that varies greatly in strength, and its preparations rapidly deteriorate. Its action is therefore very uncertain, and therapeutically it is doubtful if cannabis indica is of any value, unless a too large dose of a strong preparation is given.

DRUGS AND PREPARATIONS THAT ARE DELETERIOUS

The following should not be officialized:

Veratrin and oleate of veratrin are dangerous.

Linimentum belladonnae is dangerous. The amount of absorption is uncertain.

Troches of potassium chlorate should not be officialized, as saliva mixed with potassium chlorate should not be swallowed. Potassium chlorate should never be given internally, in my opinion. It can cause severe irritation and even ulceration of the stomach, and kidney irritation and inflammation.

Dilute hydrocyanic acid should not be officialized, as it has no action whatever unless the dose is large, and then its action is dangerous.

RAPIDLY DETERIORATE

The following are a few of the preparations which rapidly deteriorate, and hence should not be officialized:

Acidum Hydriodicum Dilutum
  Syrupus Acidi Hydriodici Dilutum
Acidum Hypophosphorosum
Acidum Nitrohydrochloricum Dilutum
Aqua Aurantii Florum
Aqua Aurantii Florum Fortior
Aqua Rosae
Aqua Rosae Fortior
Mucilago Acaciae
Mucilago Sassafras Medullae
Syrupus Aurantii
Syrupus Aurantii Florum

INFERIOR PREPARATIONS

If the selection of a drug or preparation were left to the layman who must take the medicine, it is presumptive that he would select the most active, other things being equal, of the drugs or preparations of the class that he needed. The same must be true of the physician writing the prescription. Hence why should we standardize and officialize preparations of a second-rate drug? The following drugs have been accepted for the new Pharmacopeia, though they are pharmacologically and therapeutically inferior to other drugs which act similarly. I realize, of course, that many physicians will find many points of difference in opinion in regard to the individual drugs and preparations, but as a class each reader will certainly decide against these drugs and preparations, if he is familiar with the pharmacology of these and better drugs. While many of these drugs have activities, they are inferior to other drugs and preparations of the same class.

Acetum Scillae (Vinegar of Squill)
Ammonii Bromidum
Ammonii Iodidum
Ammonii Salicylas
Bismuthi et Ammonii Citras
Calcii Bromidum
Cambogia (Gamboge)
Camphora Monobromata
Carbo Animalis Purificatus (Purified Animal Charcoal)
Ceratum Plumbi Subacetatis (Goulard's Cerate)
Cerii Oxalas (Cerium Oxalate)
Infusum Pruni Virginianae
Liquor Acidi Arsenosi
Liquor Arseni et Hydrargyri Iodidi
Liquor Hydrargyri Nitratis
Liquor Ferri Subsulphatis (Monsell's Solution)
Liquor Zinci Chloridi (Solution of Zinc Chlorid)
Magnesii Oxidum Ponderosum (Heavy Magnesium Oxid)
Cinchoninae Sulphas
Euonymus (Wahoo)
  Extractum Euonymi
Extractum Quassiae
Fluidextractum Cinchonae
Fluidextractum Digitalis
Fluidextractum Gentianae
Fluidextractum Rosae
Glyceritum Amyli (Glycerite of Starch)
Glycyrrhizum Ammoniatum (Ammoniated Glycyrrhizin)
Guarana
  Fluidextractum Guaranae
Oleatum Quininae (Oleate of Quinin)
Oleum Picis Liquidae (Oil of Tar)
Pilocarpinae Nitras
Quinina
Sodii Acetas
Sodii Chloras
Sodii Phosphas Exsiccatus
Styrax
Sulphonmethanum
Syrupus Rosae
Zinci Acetas

UNNECESSARY OFFICIALIZATION

The following drugs have been accepted for the Pharmacopeia in two forms, or several of the same group have been accepted, though their activities are so similar that reduplication seems unnecessary. Although not listed here, the preparations of many of the drugs are too many. Where several preparations of a drug are offered, one or more of them is superfluous. The careless redundancy of the Executive Committee is shown by the fact that it has officialized in its last approved list, March, 1913, *scopolamin hydrobromid* and *hyoscin hydrobromid*, though they are commercially, pharmacally and therapeutically identical. Following are a few unnecessary redundancies:

Belladonnae Folia (Belladonna Leaves)
Belladonnae Radix (Belladonna Root)
Colchici Cormus (Colchicum Root)
Colchici Semen (Colchicum Seed)
Cinnamomum Saigonicum
Cinnamomum Zeylanicum

Hyoscyamus
  Fluidextractum Hyoscyami
  Tinctura Hyoscyami
Stramonium
  Tinctura Stramonii
  Unguentum Stramonii
	These drugs are so similar to belladonna that there seems to be no reason for officializing them and their preparations.

Hamamelidis Cortex (Witchhazel Bark)
Hamamelidis Folia (Witchhazel Leaves)
Hyoscinae Hydrobromidum
Scopolaminae Hydrobromidum
Liquor *Potassii* Arsenitis (Solution of Potassium Arsenite)
Liquor Sodii Arsenitis (Solution of Sodium Arsenite)
Viburnum Opuli (Cramp Bark)
Viburnum Prunifolium (Black Haw Viburnum)

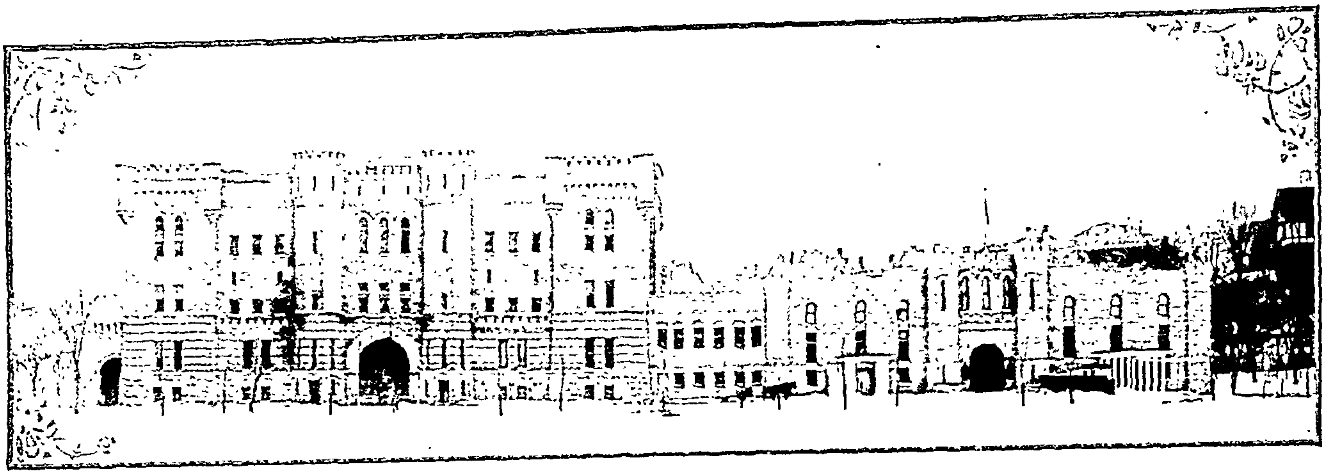


Fig. 1. National Guard Armory, where the President's Reception and the Ball will be held.

THE MINNEAPOLIS SESSION

AMERICAN MEDICAL ASSOCIATION, SIXTY-FOURTH ANNUAL SESSION, MINNEAPOLIS, JUNE 17-20, 1913

OFFICIAL CALL

TO THE OFFICERS AND MEMBERS OF THE CONSTITUENT ASSOCIATIONS OF THE AMERICAN MEDICAL ASSOCIATION

The sixty-fourth annual session of the American Medical Association will be held at Minneapolis.

The House of Delegates will convene at 10 a. m., Monday, June 16. In the House the representation of the various constituent associations for 1912 is as follows:

Alabama	3
Arizona	1
Arkansas	2
California	3
Canal Zone	1
Colorado	2
Connecticut	2
Delaware	1
District of Columbia	1
Florida	1
Georgia	3
Hawaii	1
Idaho	1
Illinois	9
Indiana	4
Iowa	3
Kansas	2
Kentucky	4
Louisiana	2
Maine	1
Maryland	2
Massachusetts	5
Michigan	4
Minnesota	2
Mississippi	2
Missouri	5
Montana	1
Nebraska	2
Nevada	1
New Hampshire	1
New Jersey	3
New Mexico	1
New York	11
North Carolina	2
North Dakota	1
Ohio	6
Oklahoma	2
Oregon	1
Pennsylvania	9
Rhode Island	1
South Carolina	1
South Dakota	1
Tennessee	2
Texas	5
Utah	1
Vermont	1
Virginia	3
Washington	2
West Virginia	1
Wisconsin	3
Wyoming	1

The fifteen scientific sections of the American Medical Association, the Medical Department of the Army, the Medical Corps of the Navy and the Public Health Service are entitled to one delegate each.

The general meeting, which constitutes the opening exercises of the scientific program of the Association, will be held at 10:30 a. m., Tuesday, June 17. The various sections will meet Tuesday at 2 p. m., and subsequently, according to their programs, on Wednesday and Thursday, June 18 and 19, and in some cases also on Friday morning, June 20.

The Registration Department will be open from 8:30 a. m. until 5:30 p. m. on Monday, Tuesday, Wednesday and Thursday, June 16, 17, 18 and 19, and from 9 to 10 a. m., on Friday, June 20.

ABRAHAM JACOBI, President.

ALEXANDER R. CRAIG, Secretary.

THE MEMBERS OF THE HOUSE OF DELEGATES

A Preliminary Roster of the Legislative Body of the American Medical Association

The list of members of the House of Delegates for the session is incomplete, as a number of state societies are yet to hold their meetings at which delegates will be elected. The following is a list of the holdover delegates and of the newly elected members who have been reported to THE JOURNAL in time to be included:

STATE DELEGATES

ALABAMA

W. H. Sanders, Montgomery.
Seale Harris, Mobile.
E. D. Bondurant, Mobile.

ARKANSAS

Morgan Smith, Little Rock.

CALIFORNIA

George H. Kress, Los Angeles.
George A. Hare, Fresno.
V. G. Vecki, San Francisco.

CANAL ZONE

W. C. Gorgas, Ancon.

COLORADO

Hubert Work, Pueblo.
W. A. Jayne, Denver.

CONNECTICUT

E. J. McKnight, Hartford.
D. Chester Brown, Danbury.

DELAWARE

Henry J. Stubbs, Wilmington.

DISTRICT OF COLUMBIA

G. Wythe Cook, Washington.

FLORIDA

Joseph Y. Porter, Key West.

GEORGIA

T. J. Charlton, Savannah.

IDAHO

J. N. Alley, Fort Lapwai.

ILLINOIS

A. L. Brittin, Athens.
A. C. Cotton, Chicago.
W. L. Noble, Chicago.
John A. Robison, Chicago.
J. T. Montgomery, Charleston.
E. W. Fiegenbaum, Edwardsville.

INDIANA

J. Rilus Eastman, Indianapolis.
Edwin Walker, Evansville.
F. B. Wynn, Indianapolis.
C. S. Bond, Richmond.

IOWA

L. W. Littig, Davenport.
N. M. Voldeng, Cherokee.

KANSAS

J. T. Axtell, Newton.

KENTUCKY

W. W. Richmond, Clinton.
J. W. Ellis, Masonville.
J. W. Kincaid, Catlettsburg.
A. T. McCormack, Bowling Green.

MAINE

E. H. Bennett, Lubec.

MARYLAND

G. Lane Taneyhill, Baltimore.
R. B. Warfield, Baltimore.

MASSACHUSETTS

H. D. Arnold, Boston.
H. G. Stetson, Greenfield.
H. W. Van Allen, Springfield.
Hugh Cabot, Boston.
C. P Hooker, Springfield.

MICHIGAN

E. T. Abrams, Dollar Bay.
F. C. Warnshuis, Grand Rapids.
Louis J. Hirschman, Detroit.
C. E. Boys, Kalamazoo.

MINNESOTA

R. C. Dugan, Eyota.
Thomas McDavitt, St. Paul.

MISSISSIPPI

D. J. Williams, Gulfport.
S. W. Glass, Lyon.

MISSOURI

C. R. Woodson, St. Joseph.
A. W. McAlester, Jr., Kansas City.
H. L. Reid, Charleston.

MONTANA

Donald Campbell, Butte.

NEBRASKA

A. D. Nesbit, Tekamah.

NEVADA

Benjamin F. Cunningham, Reno.

NEW HAMPSHIRE

John Z. Shedd, North Conway.

NEW JERSEY

William S. Lalor, Trenton.

NEW MEXICO

S. D. Swope, Deming.

NEW YORK

William D. Johnson, Batavia.
Grant C. Madill, Ogdensburg.
Dwight H. Murray, Syracuse.
Wendell C. Phillips, New York City.
James P. Warbassee, Brooklyn.

NORTH CAROLINA

J. Howell Way, Waynesville.
H. A. Royster, Raleigh.

OHIO

C. L. Bonifield, Cincinnati.
W. J. Means, Columbus.
August Rhu, Marion.
H. C. Haning, Dayton.

OKLAHOMA

J. H. White, Muskogee.

OREGON

K. A. J. MacKenzie, Portland.

PENNSYLVANIA

George W. Guthrie, Wilkes-Barre.
Theodore B. Appel, Lancaster.
John B. Lowman, Johnstown.
M. Howard Fussell, Philadelphia.
Luther B. Kline, Catawissa.
Thomas D. Davis, Pittsburgh.
W. Rowland Davies, Scranton.
Wm. T. Hamilton, Philadelphia.
John B. McAlister, Harrisburg.

RHODE ISLAND

John Champlin, Westerly.

TENNESSEE

A. B. Cooke, Nashville.
S. M. Miller, Knoxville.

TEXAS

W. B. Russ, San Antonio.

UTAH

S. G. Kahn, Salt Lake City.

VERMONT

J. N. Jenne, Burlington.

VIRGINIA

William E. Anderson, Farmville.
John S. Davis, University.

WASHINGTON

J. E. Else, Pullman.
L. L. Love, Tacoma.

WEST VIRGINIA

P. A. Haley, Charleston.

WISCONSIN

J. J. McGovern, Milwaukee.
J. F. Pember, Janesville.
Rock Sleyster, Waupun.

WYOMING

M. A. Newell, Sheridan.

DELEGATES FROM THE SECTIONS

PRACTICE OF MEDICINE

Joseph A. Capps, Chicago.

SURGERY

W. LeMoyne Wills, Los Angeles.

OBSTETRICS, GYNECOLOGY AND ABDOMINAL SURGERY

Thomas S. Cullen, Baltimore.

OPHTHALMOLOGY

Thomas A. Woodruff, Chicago.

LARYNGOLOGY, OTOLOGY AND RHINOLOGY

Chevalier Jackson, Pittsburgh.

DISEASES OF CHILDREN

Charles Douglas, Detroit.

PHARMACOLOGY AND THERAPEUTICS

Torald Sollmann, Cleveland.

PATHOLOGY AND PHYSIOLOGY

Yandell Henderson, New Haven, Conn.

STOMATOLOGY

G. V. I. Brown, Milwaukee, Wis.

NERVOUS AND MENTAL DISEASES

E. B. Angell, Rochester, N. Y.

DERMATOLOGY

Frank C. Knowles, Philadelphia.

PREVENTIVE MEDICINE AND PUBLIC HEALTH

M. P. Ravenel, Madison, Wis.

HOSPITALS

Fred A. Washburn, Boston.

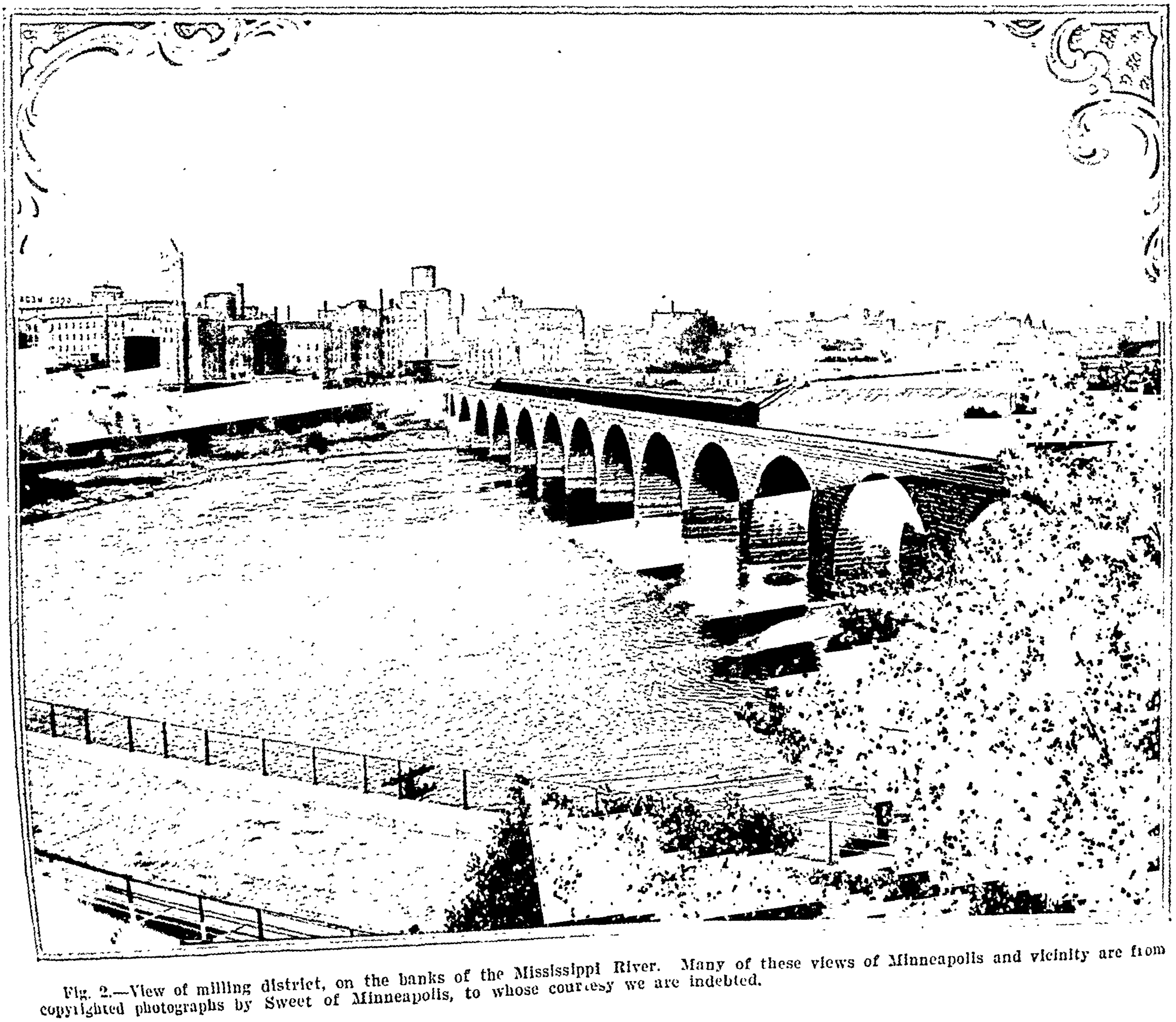


Fig. 2.—View of milling district, on the banks of the Mississippi River. Many of these views of Minneapolis and vicinity are from copyrighted photographs by Sweet of Minneapolis, to whose courtesy we are indebted.

THE CITY OF MINNEAPOLIS

Meeting-Place of the Sixty-Fourth Annual Session of the American Medical Association

Minneapolis has not heretofore entertained the American Medical Association, but she has achieved a high reputation as a convention city, and her people await the opportunity to open wide her gates to a new visitor and to add another wreath to the laurels which, as a civic hostess, she has already won.

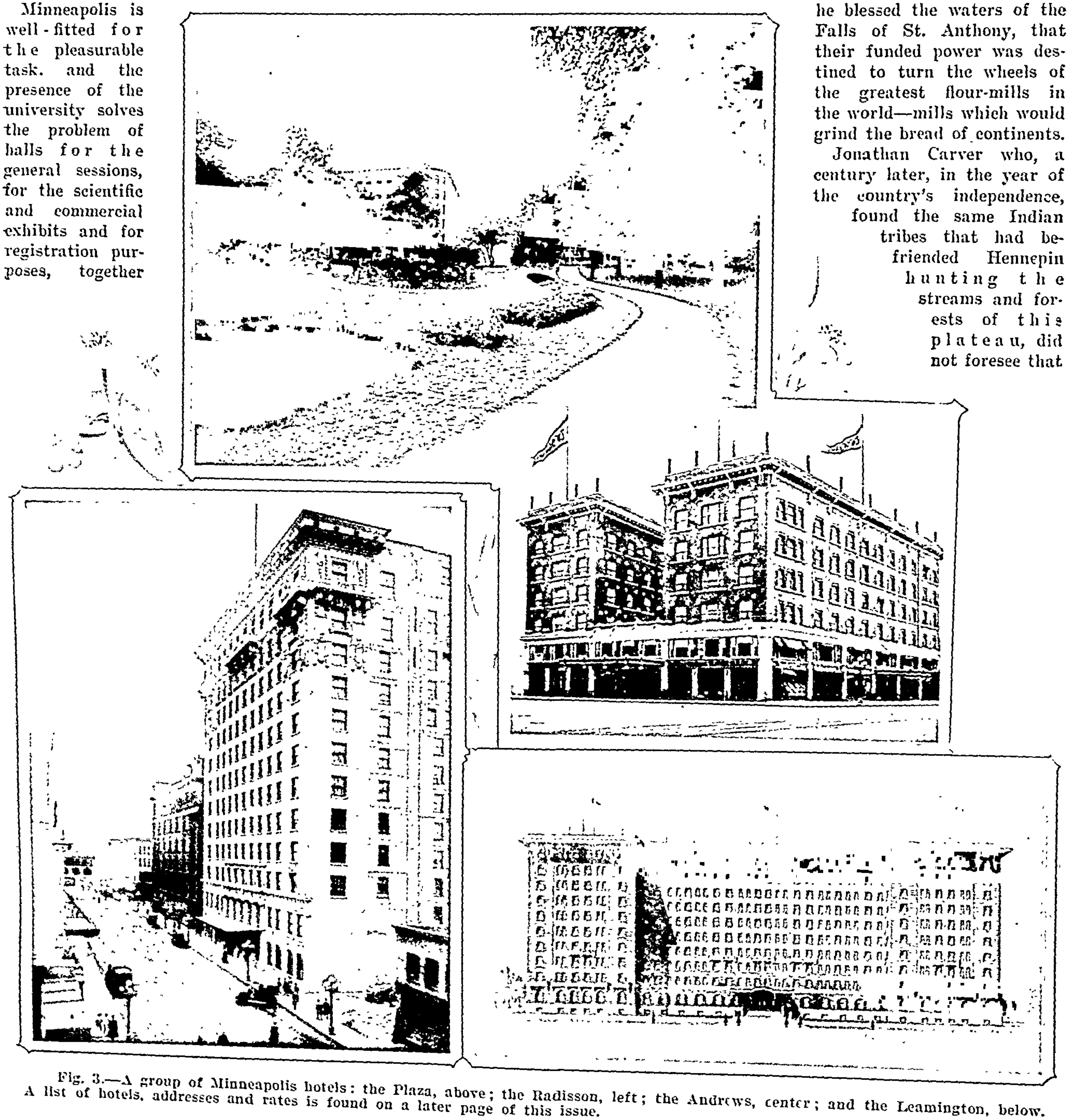


Fig. 3.—A group of Minneapolis hotels: the Plaza, above; the Radisson, left; the Andrews, center; and the Leamington, below. A list of hotels, addresses and rates is found on a later page of this issue.

Minneapolis is well-fitted for the pleasurable task, and the presence of the university solves the problem of halls for the general sessions, for the scientific and commercial exhibits and for registration purposes, together with commodious gathering-places for the sections of the Association, located within a half-mile radius.

The sister-city of St. Paul stands ready to assist in the accommodation and entertainment of the guests. Since the university campus lies close to the midway district and is almost equally accessible from each city, visitors will be conveniently housed in either place.

HISTORICAL INCIDENTS

If the city of Minneapolis is not old enough to cherish many traditions, her history is not without its touches of romance. Radisson and Grosilliers, *courriers des bois*, who crossed the site of the city between 1660 and 1665, did not realize that they were the vanguard of a great civilization. Father Louis Hennepin, who, twenty years later, discovered the great falls of the Mississippi and named them after his patron saint of Padua, did not imagine, as he blessed the waters of the Falls of St. Anthony, that their funded power was destined to turn the wheels of the greatest flour-mills in the world—mills which would grind the bread of continents.

Jonathan Carver who, a century later, in the year of the country's independence, found the same Indian tribes that had befriended Hennepin hunting the streams and forests of this plateau, did not foresee that his own name and that of his predecessor would identify the neighboring counties of a populous state, which would form the setting of a great city.

Lieut. Zebulon M. Pike, who, in 1805, bought from the Indians a military reservation, known then as Fort St. Anthony, and including the smaller acreage of the present Fort Snelling, did not know that he was buying up half the limits of the future metropolis of the Northwest. It was undoubtedly the fact of that purchase which drew to the spot the men who founded the city.

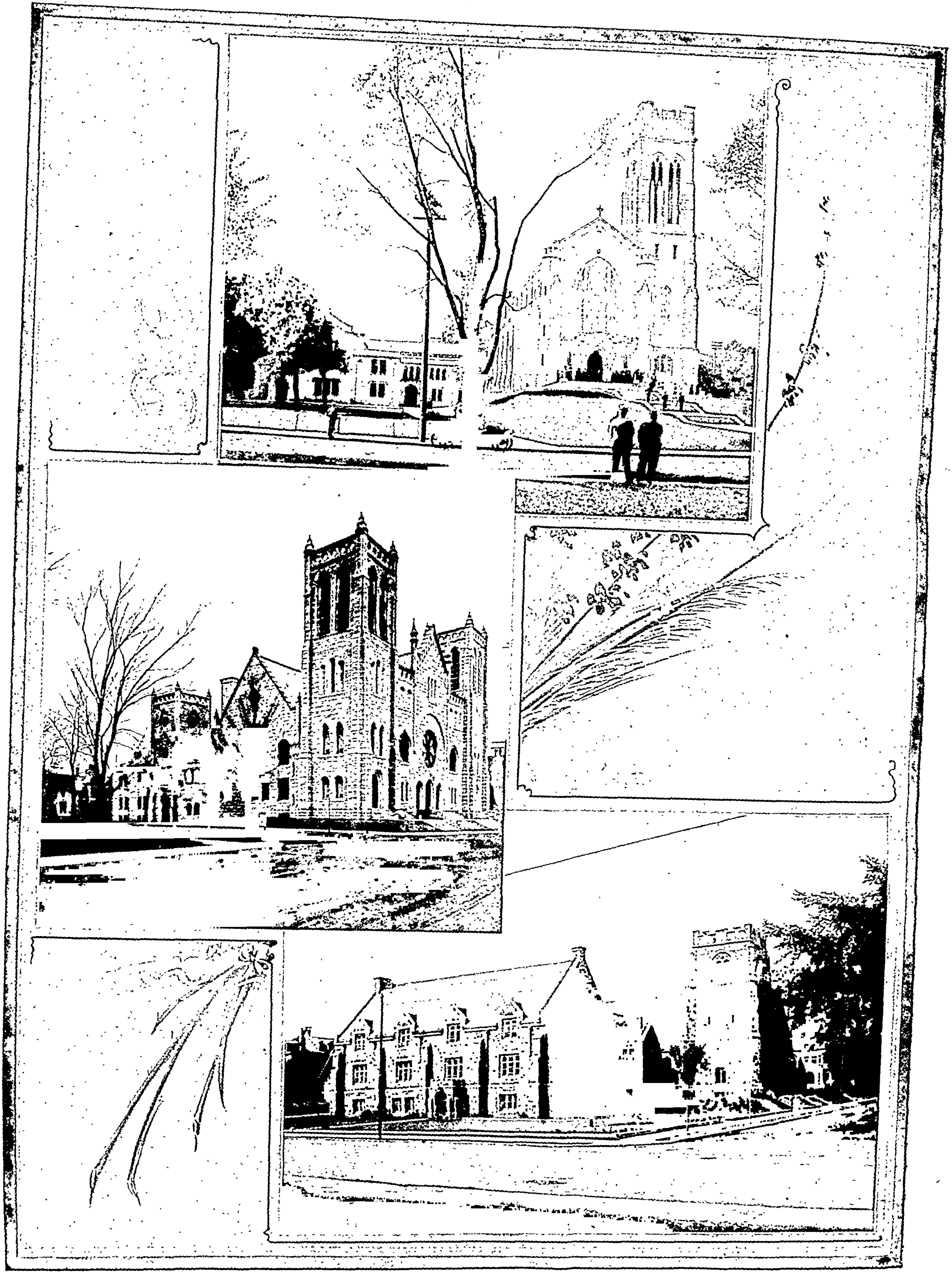


Fig. 4.—A group of Minneapolis churches: St. Mark's, above; Westminster, center; Plymouth Congregational, below.

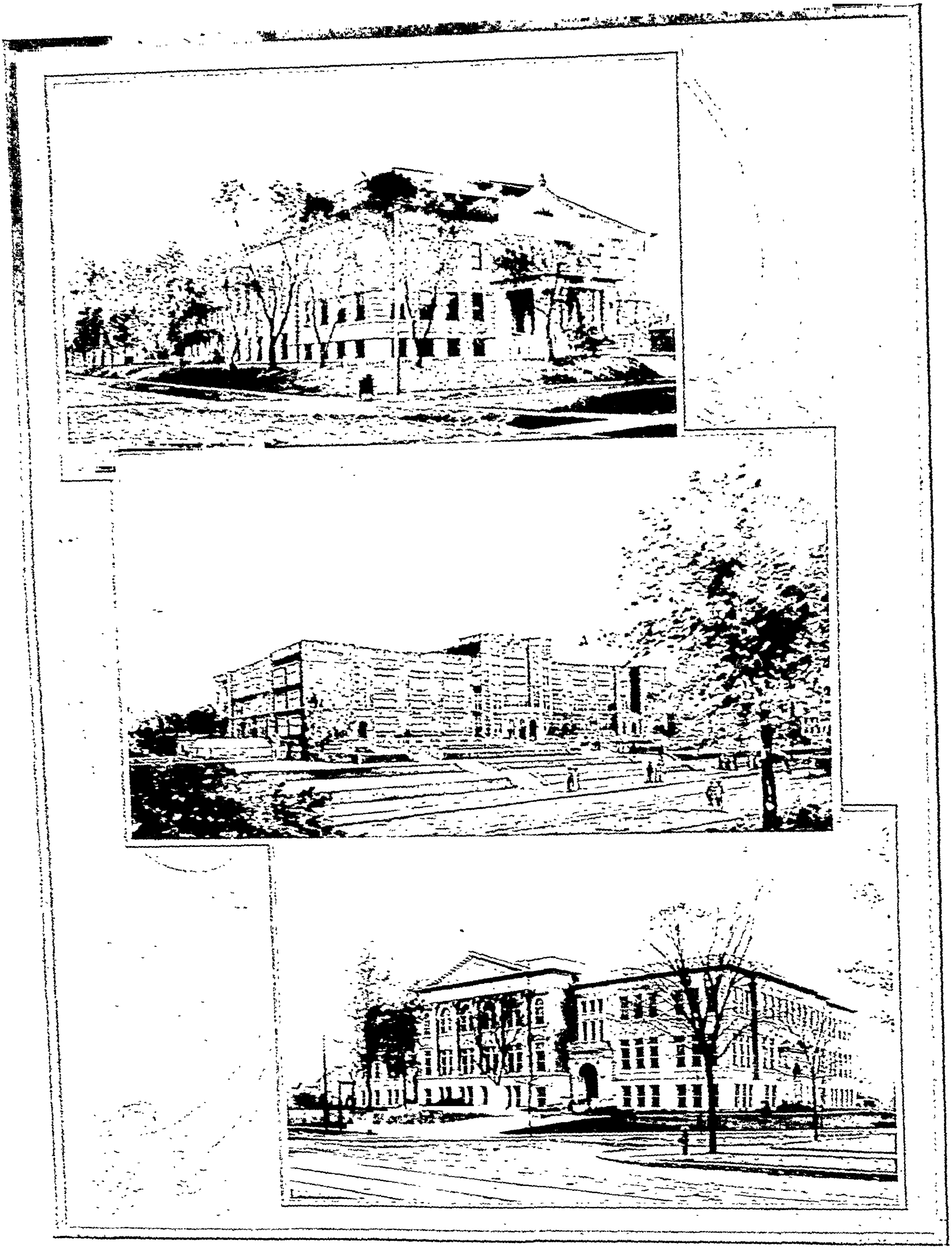


Fig. 3—A group of Minneapolis schools: Augsburg Seminary, above; New Central High School, center; West High School, below,

On a great boulder, by the foot of a hill near Lake Harriet, is placed a bronze tablet which marks the neighboring point on which Samuel and Gideon Pond, missionaries to the Minnesota Indians, built the mission-house, in 1834, which served as the first dwelling-place of white men within the present boundaries of Minneapolis. It was in 1850 that Col. John H. Stevens, the first citizen of the town of those early days, built his home on the west bank of the river, where the first white child of the place was born.

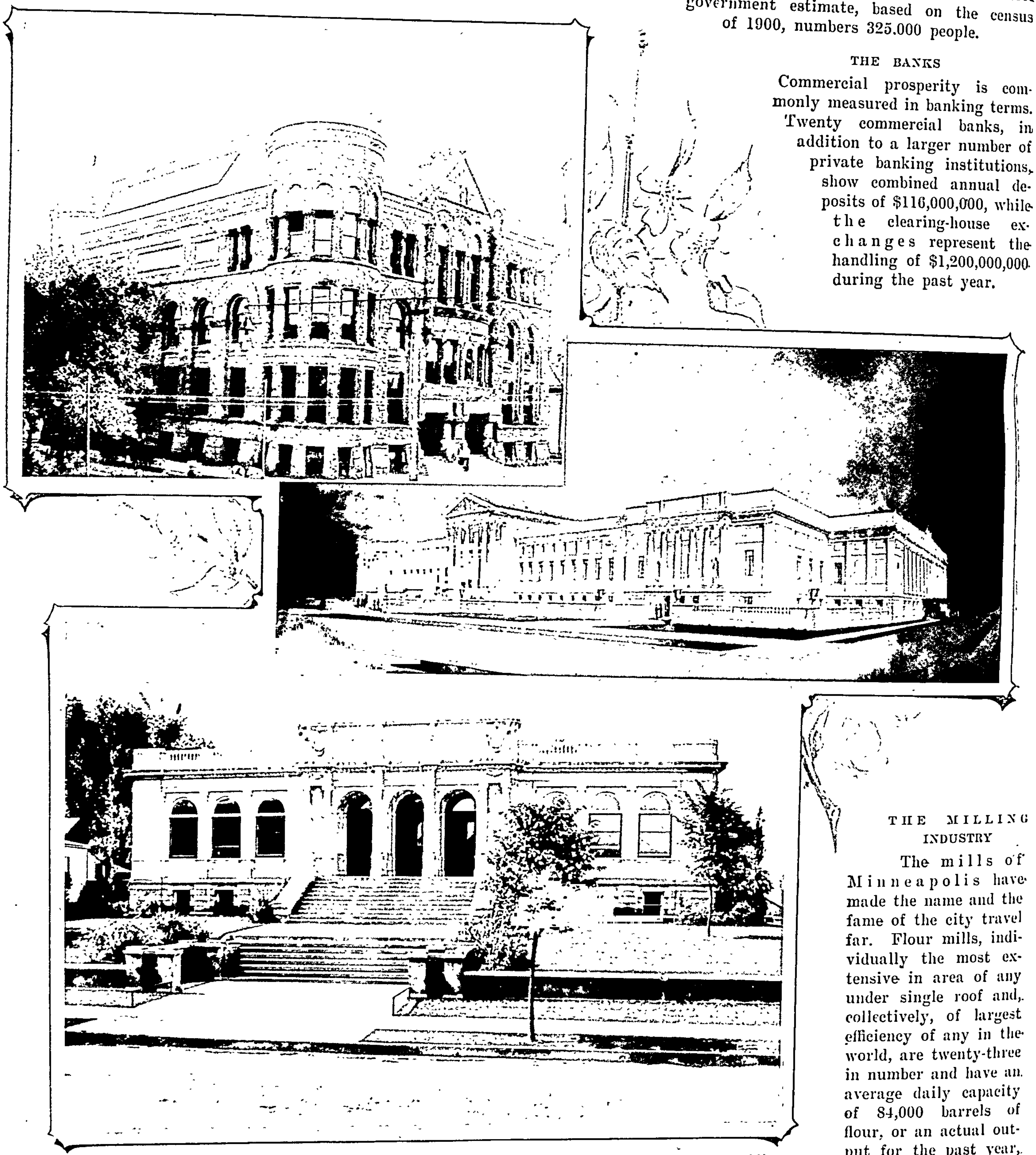


Fig. 6.—The Public Library, above; Minneapolis Art Museum, center; Pillsbury Public Library, below.

In the year 1855 the village of St. Anthony, now the east side of Minneapolis, was incorporated; in 1856, the village on the west side followed suit; while in 1872, the two, grown to the stature of small cities, were united and the present corporation was formed.

POPULATION

The combined population of 20,000 of that day had gradually grown to 46,000 in 1882, when the western boom fever struck the city and rapidly doubled and trebled its former numbers. From that time on, until the present, the growth of Minneapolis has been of that normal progressive quality which marks the development of the permanently great city. The latest government estimate, based on the census of 1900, numbers 325,000 people.

THE BANKS

Commercial prosperity is commonly measured in banking terms. Twenty commercial banks, in addition to a larger number of private banking institutions, show combined annual deposits of $116,000,000, while the clearing-house exchanges represent the handling of $1,200,000,000 during the past year.

THE MILLING INDUSTRY

The mills of Minneapolis have made the name and the fame of the city travel far. Flour mills, individually the most extensive in area of any under single roof and, collectively, of largest efficiency of any in the world, are twenty-three in number and have an average daily capacity of 84,000 barrels of flour, or an actual output for the past year, of 17,000,000 barrels. These great industries are always open to the inspection of visitors and always attract the sightseer.

MANUFACTURERS

While the water-power of the Mississippi was initially the basis of the city's growth as a great manufacturing center, that power has been transformed, in later years, in large measure, into electrical energy and has been supplemented in this task by the power of the St. Croix River, developed at Taylor's Falls, 41 miles distant, and carried to Minneapolis in the form of an electrical supply of 55,000 voltage. Thus water, steam and electricity combine to maintain the mills and manufactories of the city.

On the river, below the Tenth Avenue Bridge, is to be seen the power plant of the Twin City Rapid Transit Company, whence is delivered the energy that electrifies the entire street-car system.

The city's manufactures cover a large field of industrial enterprise, including flour, cereals, stock foods, machinery, furniture, lumber, agricultural implements, gas tractors, threshing machines, grain separators, wagons, auto-trucks, barrels, boilers, brick, bed-springs, wheelbarrows, linseed oil, paint, knit goods, cigars, shoes, clothing, bags, stationery, mattresses, hats, caps, gloves, etc., representing a total output valued at $200,000,000 a year.

THE MINNEAPOLIS JOBBERS

Minneapolis is a widely distributing center of trade. Her wholesalers cover a large area of the West and Northwest and she keeps an army of drummers in the field. The wholesale business of the city totals $350,000,000 a year.

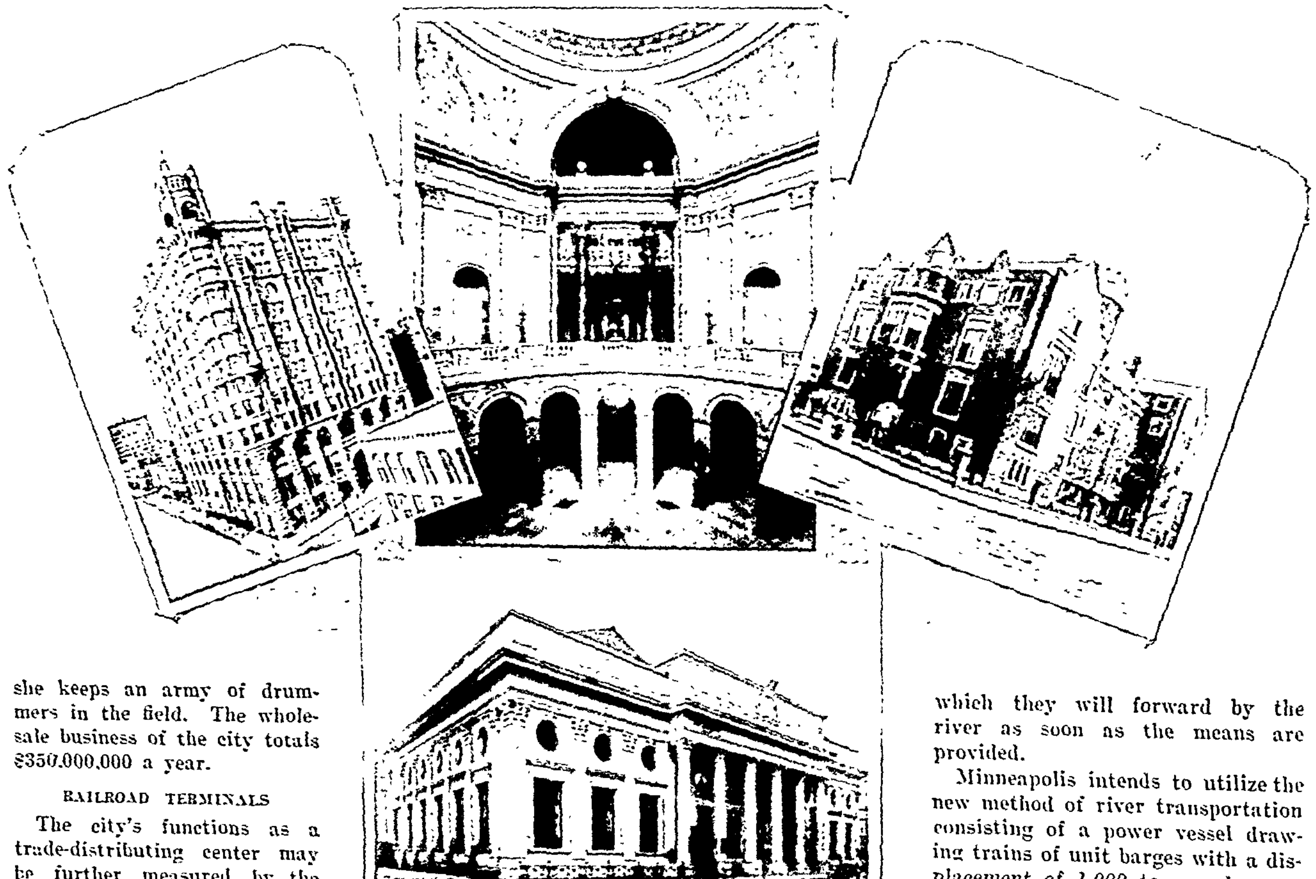


Fig. 7.—The rotunda of the Minnesota state capitol building at St. Paul, and some Minneapolis buildings: Metropolitan Life building, left; Minneapolis Club, right; First National Bank, below.

RAILROAD TERMINALS

The city's functions as a trade-distributing center may be further measured by the radii which her railways put forth. The close relations of the Twin Cities necessitate the sharing of the terminal facilities of the carrying roads. Nine of these terminals are in Minneapolis, while twenty-six railway lines enter and leave the city. A new union station is in process of construction, and the city hopes to effect an arrangement by which all entering roads will use the same or immediately neighboring stations.

A bill has just passed the Minnesota legislature, providing for the creation of a commission to make and submit plans for this station to the State Railway and Warehouse Commission, and authorizing the appointment of a later commission to take charge of building the station and constructing the terminals.

THE HEAD OF NAVIGATION AND THE HIGH DAM

With the passage of acts of Congress providing for the erection of the Mississippi high dam, which is approaching completion, and for the making of a 6-foot river channel well up into the heart of the city, the vision of the immediate future brings significant possibilities into its foreground. Minneapolis will be, in truth, the head of navigation, with an excellent inland harbor, and she will share in the greater treasury of water-power which this project will make available to her and to the state university, which is building its new power plant on the banks of the river.

State legislative provision has been made for establishing municipal terminals of modern type and equipment, for the economical handling of freight; and business men of the city are purchasing stock in a navigation company which is preparing to engage in river traffic as soon as these terminals are ready for use. The larger shippers of the city are enthusiastic over the development of water transportation, and an informal census has brought, from a few of them, pledges of more than 500,000 tons of south-bound freight per annum, which they will forward by the river as soon as the means are provided.

Minneapolis intends to utilize the new method of river transportation consisting of a power vessel drawing trains of unit barges with a displacement of 1,000 tons each.

THE STREET AND SUBURBAN RAILWAYS

Minneapolis has been fortunate in her electric transit system. Under the guiding direction of the city council this system, which now covers 177.5 miles of trackage, is in process of extension for the still better relation of the remoter districts to the civic center. It is to be accounted the most potent single agency in the promotion of the great movement of the people of the city "back to the nearer soil." A veritable chain of suburbs is ringing the city around with country homes to which her great army of workers is finding ever readier access. Numerous cars carry the people to the neighboring lakes within the city limits. Four interurban lines link the Twin Cities and are serving to develop a populous midway district. Suburban trolley-roads extend to Stillwater, including White Bear Lake *en route*, to the neighboring villages of Hopkins and St. Louis Park, and to Deephaven, Excelsior and Tonka Bay, on beautiful Lake Minnetonka, the city's choicest suburban asset.

A fleet of lake steamers connects with suburban trains, the boats making hourly trips to scheduled points on the lake. Under the favoring influence of this system of suburban travel, large numbers of homes for permanent and summer residences are springing up around this beautiful sheet of water and along the routes by which it is reached.

THE CITY'S ARCHITECTURE

Minneapolis is growing through that trying period in the evolution of a great city when the transitory passes into the permanent and when growing civic taste embodies itself in better and more comely architectural forms. Her great office buildings and warehouses, her university and school-buildings, her halls of art and music, and her homes of every type are responding to the impetus of a newly awakened sense of civic beauty. The extent and measure of her growth may be judged commercially by the sum of the building permits, amounting to over $14,000,000, issued in the past year. Notable structures recently completed or in process of building are the Radisson and the Dyckman hotels, the Hotel Leamington—a splendidly appointed family house—St. Mark's Church, Plymouth Church, the Pro-Cathedral, the Hennepin Avenue M. E. Church, the Art Museum, the new Central High School, the gymnasium

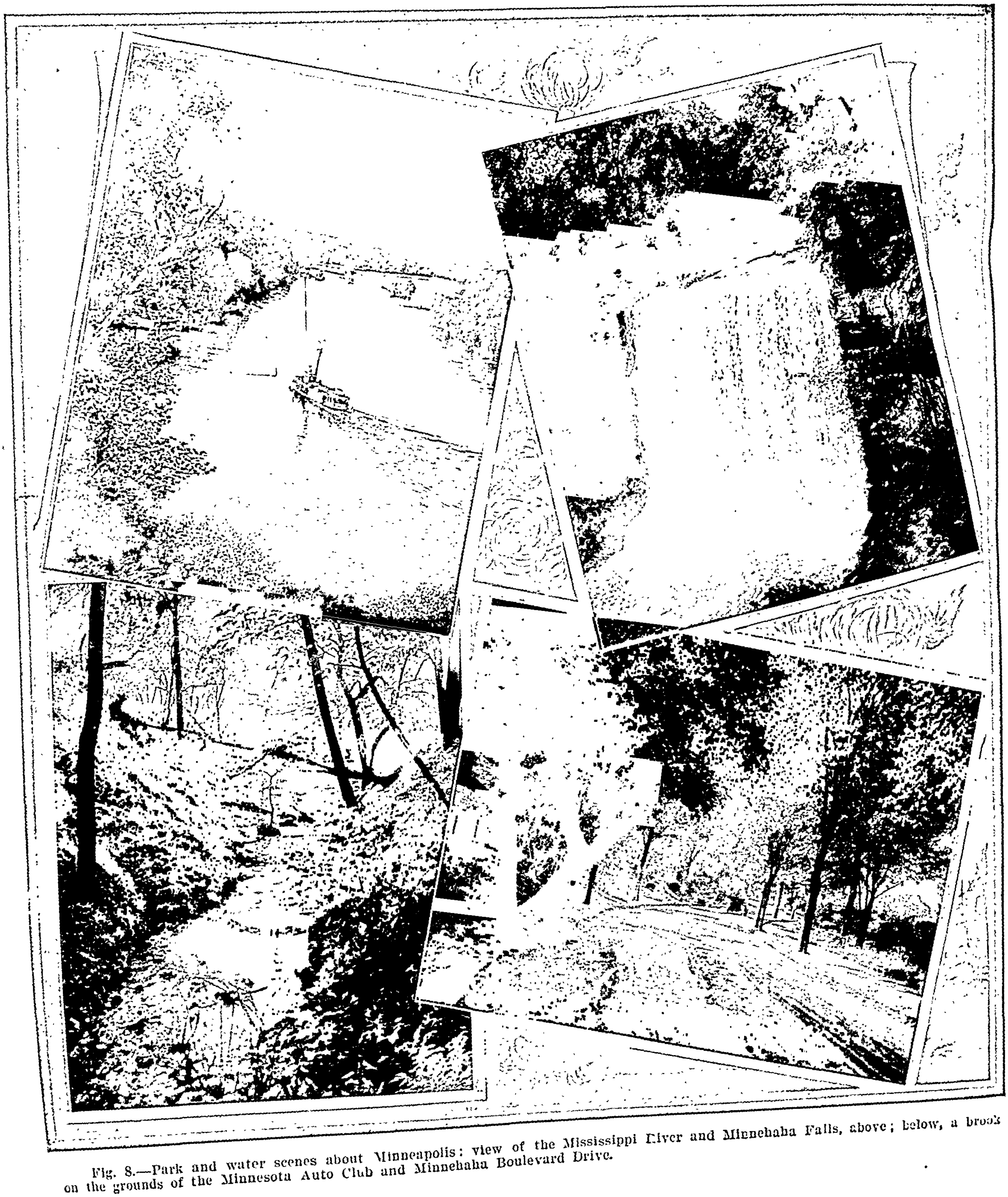


Fig. 8.—Park and water scenes about Minneapolis: view of the Mississippi River and Minnehaha Falls, above; below, a brook on the grounds of the Minnesota Auto Club and Minnehaha Boulevard Drive.

of the Minneapolis Club, the Elks' Club, the Shubert Theater, the new post-office and the new, so-called, Union Station. Minneapolis real estate prices are admittedly much lower than in any other city of her population, affording a fine opportunity for safe and profitable investment. There were 41,407 real estate transfers in 1912, totaling over $34,000,000 in value.

THE SCHOOLS

No better gage of the civic progress of a community can be set than that which marks its ideal of cultural values. A public-school system which occupies seventy grade schools and five high schools employs 1,150 teachers and enrolls 47,127 pupils, with 5,000 additional students in night schools, measures up well to the sum of the city's population.

The best of school-buildings, put to the best and the largest uses; a modern curriculum, framed on the "six-three-and-three" year plan; securing the symmetrical development of the child, offering early differentiations in training, and efficiently preparing boys and girls for the life-work they elect to follow; the payment of higher salaries to better teachers are the aims or the achievements of the progressive men and women who have this school-system in their care.

An open-air school has recently been established, and others are to follow. The fresh air method within the schoolroom has been adopted in certain buildings; two schools for stammerers and one for subnormal children, in charge of specialists, are maintained. The ideal of the school as a social center is generally accepted by the people.

Health inspection is a permanent feature of the school management under the control of the Board of Education. A supervisor of school hygiene, a medical officer of expert training in his field, is employed, who has a corps of nine physicians and nineteen trained nurses in daily inspection service, and who acts as sanitary advisor to the board in all matters of construction or operation relating to health. The service aims not only at the early detection and control of contagious disease, but also at the discovery and removal of defects which prejudice health and bar school progress. It is maintained at a cost of $22,000.

School maintenance costs the city $1,980,000 a year, and in the past biennium $2,500,000 have been spent in new or enlarged buildings, to which $1,500,000 will be added for the ensuing two years.

The twenty-seven parochial and private schools of the city have an enrolment of 5,000 students.

THE CHURCHES

Minneapolis is a city of churches. A bird's-eye view shows it dotted with over two hundred spires, rising, many of them, from beautiful edifices with a total seating capacity which provides for half of the city's population. More and more, the churches tend to take on an institutional quality and to devote their property to social, as well as to purely religious uses.

LIBRARIES

That Minneapolis is, in unusual measure, a community of readers is attested by the growth of her public library system. A main library building, with eleven branches and 107 deposit stations, including schools, shops and factories, provides 256,000 volumes and has an annual circulation covering 1,320,000 issues of books. Reading-rooms, museum and art collections, attached to the library, entertain large numbers of the people. The Minneapolis Bar Association maintains a large law collection, and the Hennepin County Medical Society has an extensive library suitably housed on the eleventh floor of the Donaldson Building, on the corner of Nicollet Avenue and Seventh Street, an office-building devoted to doctors.

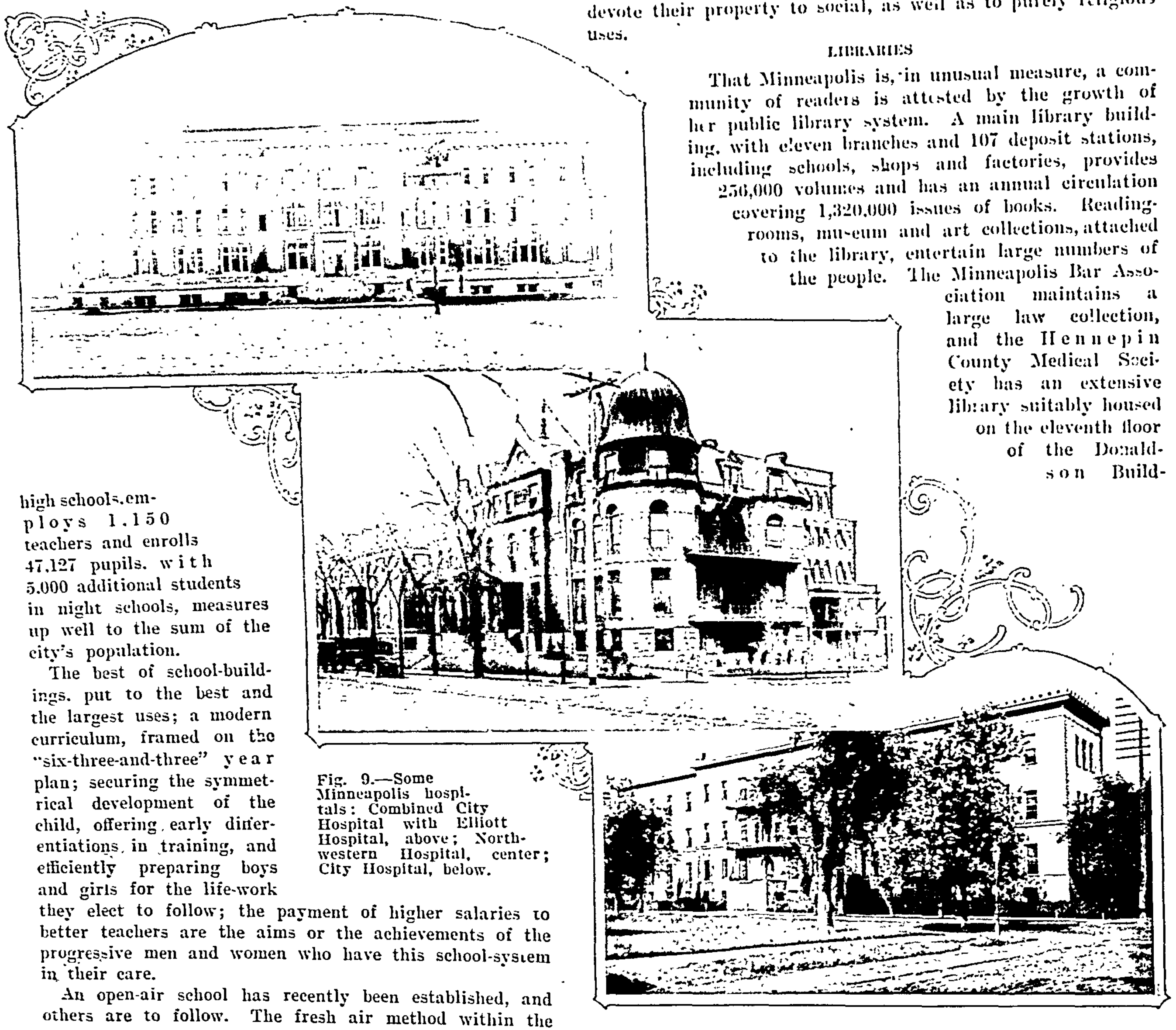


Fig. 9.—Some Minneapolis hospitals: Combined City Hospital with Elliott Hospital, above; Northwestern Hospital, center; City Hospital, below.

Further reference will be made to the university libraries.

MUSIC

Few places in Minneapolis are more popular than is the Auditorium, a fine music-hall, with a sufficient stage capacity for oratorios, operettas and the like. Nowhere has a higher order of entertainment been found.

The Auditorium has been the home of the larger musical organizations and, particularly, of the Minneapolis Symphony Orchestra. No influence on the public life of the city has been so potent as that of this remarkable orchestra, led by its remarkable conductor, Emil Oberhoffer, in cultivating the good taste of the community for the finer arts. The fame of this orchestra is not local, however. It has won for itself a place in the hearts of music-lovers throughout the country.

ART MUSEUMS

The Minneapolis Fine Arts Society has served for many years as the leaven of art culture amid the mass of a busy people devoted largely to commercial pursuits. It has fostered exhibits, promoted lecture-courses and maintained studios for teaching purposes, through the faith in a growing appreciation of art for art's sake among the people. It is about to see of the travail of its social soul. A great art museum, the foundation for which was laid in a recent gift, by the late Clinton Morrison, of a block of land valued at $250,000, the realization of which was secured by a fund of $550,000 subscribed by 225 citizens, is arising on its admirably chosen site. The first section of the building which this fund will provide for will now be completed, but the finished plan calls for an ultimate total expenditure of $3,000,000. The museum, now in course of construction, is after the plans by McKim, Mead and White, of New York; it is 320 feet long and 82 feet deep and is in Vermont granite. It will house the Minneapolis Fine Arts Society and its art schools and will provide ample room for permanent and movable exhibits.

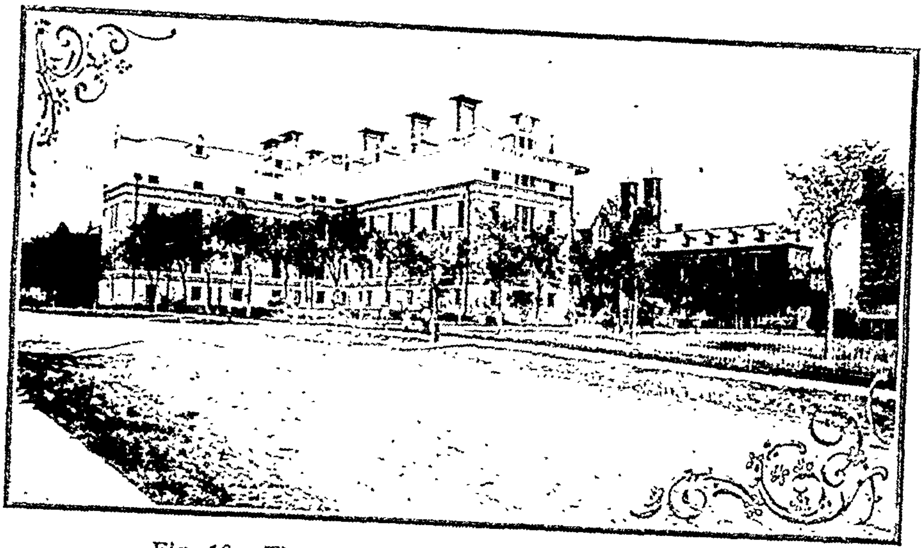


Fig. 10.—The State and County Hospital at St. Paul.

Not least among the educational factors in the attainment of this result, has been the Walker Art Gallery, maintained for many years at the home of T. B. Walker, and freely thrown open to the public. There are few art collections in the country that will vie with this private museum. The city's guests are especially invited to its enjoyment.

The Handicraft Guild is an industrial and art enterprise which is exercising a fine educational influence in the community. It maintains a school of applied arts; it puts its art products within reach of the people; it serves as a social center and as a gathering place for women's clubs and small parties.

SOCIAL FORCES

Minneapolis is well provided with clubs and club-houses, which minister to the social, recreational, athletic, commercial, educational and economic welfare of their members and of the public. The Minneapolis Club, the University Club, the Commercial Club, the Athletic Club, the Elks' Club and the Odin Club touch the life of the men of the community at various points. The Woman's Club, here as elsewhere, is a comprehensive body alike in membership and in manifold interests, and is more or less directly associated with other and more specialized societies of women. It has been a potent influence for public good in the affairs of the city. The Thursday Musicale is a large organization which has developed the love and the patronage of music in the community in notable measure.

Social-settlement workers find in so large a city as Minneapolis an ample field of service. Pillsbury House at the south end, Unity Settlement House at the north end and Wells Memorial House near the city's center serve the purposes of neighborhood clubs, and afford educational and recreational activities for large groups of people. They maintain kindergartens, day nurseries, classes in domestic training, reading-rooms and lecture-courses.

The Associated Charities is in the twenty-sixth year of a very useful life. It employs twenty-seven agents in relief work, maintains active employment bureaus and does much to systematize and direct social justice to the unfortunate. Contributions to its support aggregate $45,000.

The visiting nurses' department of the charities is finely organized and is doing effective sanitary and remedial service. It sustains a corps of twelve nurses in constant employ.

Not the least of the agencies of social betterment is the patrol limits law which, for a quarter of a century, has kept the retail liquor traffic within restricted bounds in the downtown area, protects the school-building from the near neighborhood of the saloon, and puts within reach of police centers the places where liquor is legally sold.

SANITARY RESOURCES

By grace of a marvelous climate, Minneapolis boasts a death-rate of 10.44 per thousand—lower than that of any similarly large city in the world. A broad area for the housing of her people, the dry and invigorative atmosphere they breathe, a generous measure of sunshine, an annual precipitation of but 29.35 inches, an average winter temperature of 17 F. and an average summer mark of 70.5, an easy opportunity of reaching country air and recreation, and a play-ground system which is freely used are the major factors in the sum of these sanitary statistics.

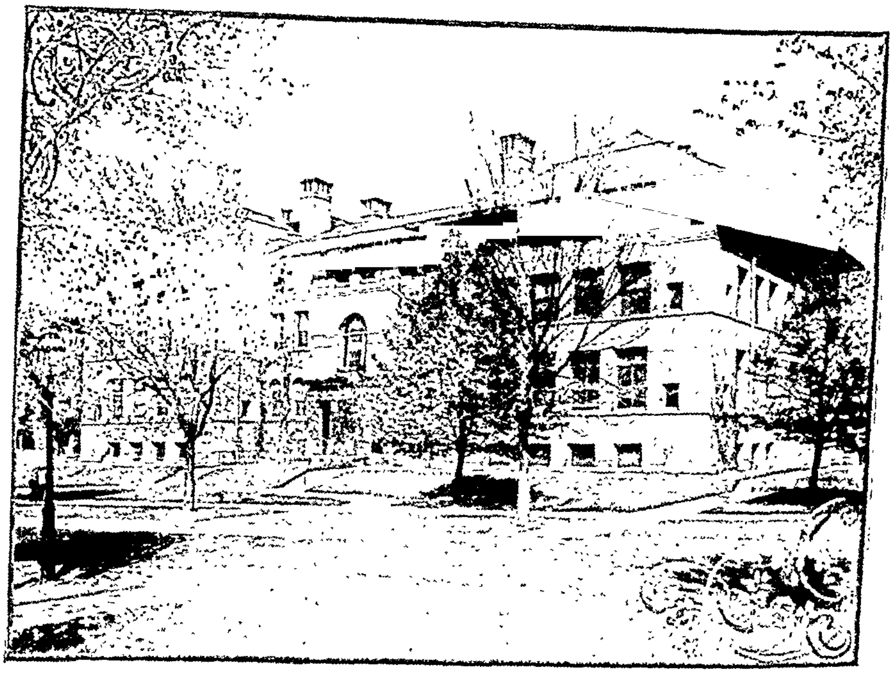


Fig. 11.—The Medical Building of the University of Minnesota.

THE PUBLIC WATER-SUPPLY

Minneapolis has been recently emancipated from the alternatives of danger from a polluted water-supply or of thraldom to the spring-water companies. After years of agitation, a Citizens' Pure Water Commission was appointed about three years ago, and on the strength of its reports, experts were

THE UNIVERSITY OF MINNESOTA

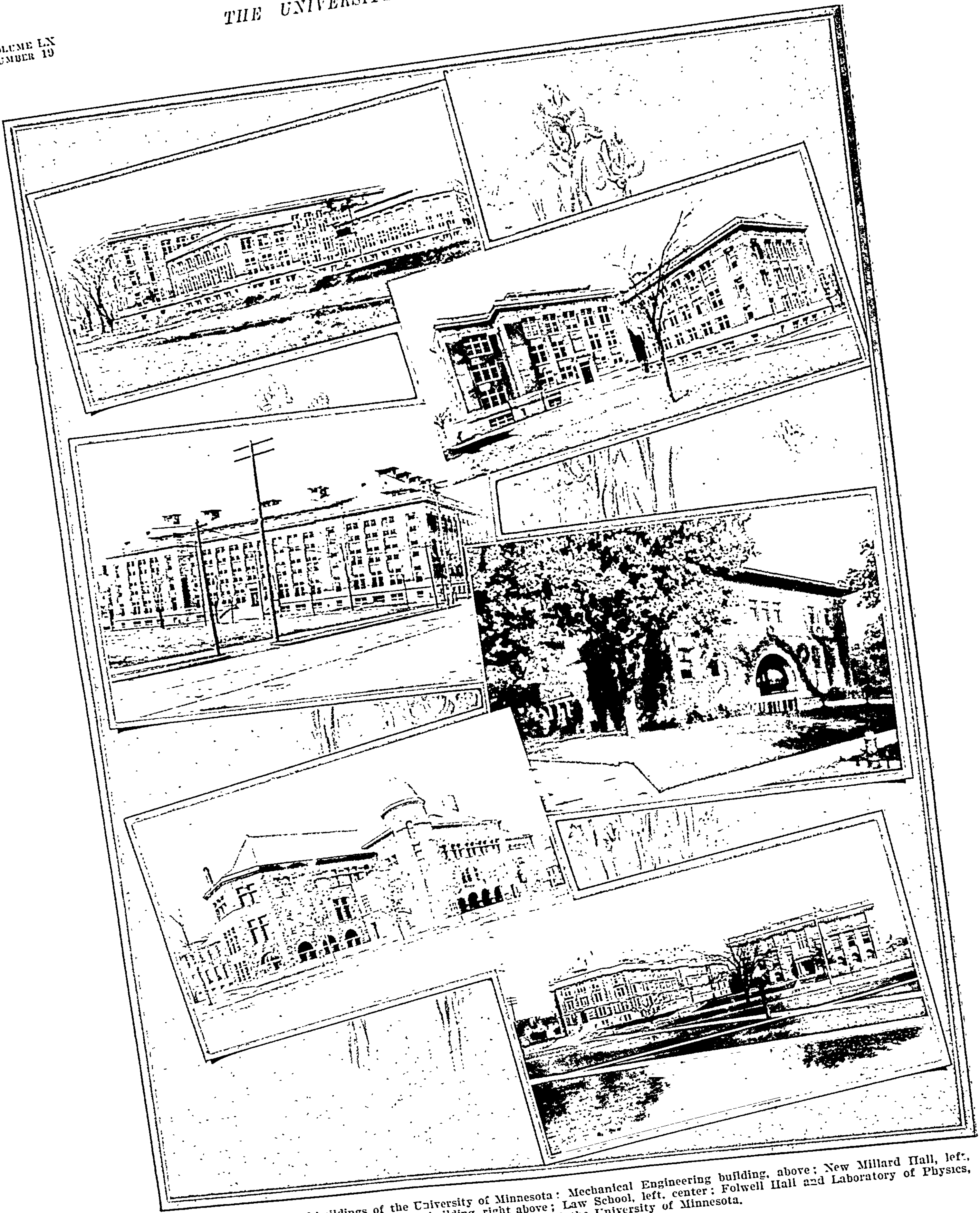


Fig. 12.—A group of buildings of the University of Minnesota: Mechanical Engineering building, above; New Millard Hall, left, center; Pillsbury Hall, left, below; Anatomy building, right above; Law School, left, center; Folwell Hall and Laboratory of Physics, below. All the section meetings are to be held on the campus of the University of Minnesota.

employed to plan for the city a rapid filtration and purification system. The plant has just reached completion, at a cost of less than a million dollars, and is a model one in every particular. In every serviceable feature it compares favorably with the best systems of other cities. Its clear-water basin has a capacity of 45,000,000 gallons, and is the largest enclosed pure water reservoir in the country. The operating cost is $4 per million gallons of water.

Fig. 13.—Fort Snelling, one of the historic spots of the Northwest.

THE PARK SYSTEM

Minneapolis is a "city of lakes and gardens." There are twenty lakes within the city limits and 120 within a radius of 25 miles. Over 3,700 acres, or one ninth of the entire area of the city, is in the park system. The city has 35 miles of parkways under the supervision of the park commissioners. One stretch of park land on the western side of the city covers nearly a thousand acres and includes seven large lakes. Four of these lakes are being connected by lagoons which will afford a continuous water-way with 12 miles of shore line, no part of which is more than 4 miles from the down-town district.

The movement to establish a civic center is well under way and the park board has almost completed its work of surrounding the plateau basin in which the city rests with parks and parkways. The historic Falls of Minnehaha are the center of a beautiful park which is connected with Lake Harriet by a broad parkway running along the banks of Minnehaha Creek. From these falls, at the extreme southwestern corner of the city, the banks of the Mississippi are parked, also, for 4 miles, up to the beautiful campus of the state university.

The park commissioners of the Twin Cities work in close harmony. Their municipal park systems meet at the Mississippi River, and on both sides of the Father of Waters unsurpassed park drives extend from the heart of Minneapolis to the historic military post, Fort Snelling. This is the only part of this great river where both banks are dedicated to the perpetual enjoyment of all the citizens.

Visitors note the absence of such signs as *Verboten* or "Keep off" in the Minneapolis parks. The children learn an interest in the city at large through the special playgrounds, wading-pools and public baths in many of the parks. Private launches and sailboats are seen on the several lakes, and rowboats and canoes are to be had at rental. The commissioners maintain free skating-rinks in many of the parks during the winter. The public baths at Lake Calhoun are objects of beauty and popular sources of health and recreation. The entire city may be said to be one great park, since for thirty years past the park board has supervised the planting of shade-trees everywhere. These hardy elms are placed at even distances and are pruned and cared for by this board.

LAKE MINNETONKA

Few cities enjoy so rare an endowment as Minneapolis cherishes in her suburban "big water," a lake of marvelous and varied beauty, with 130 miles of wonderfully sinuous shoreline, a succession of bays and beautiful islands, its banks adorned with wooded heights and rolling lawns and innumerable gardens. Minnetonka is reached by trolley-line and traversed by a fleet of scheduled steamboats. On the one side the Minneapolis and St. Louis Railway and on the other, the Great Northern Railway touch at several lake-points.

A MEDICAL CENTER

In matters medical, the Twin Cities have served as a common center, and between them, the honors have been well divided. So long have the clinical facilities of St. Paul and Minneapolis been pooled in the interests of medical education that substantial harmony of effort has been maintained between them. As in the commercial, so in the professional field, a large area of country is tributary to them and an unusually strong hospital system has been developed.

By virtue of a combination between city and county government, and through a quarter of a century of able and devoted management on the part of its superintendent, Dr. Arthur B. Ancker, the City and County Hospital of St. Paul has taken front rank, with a capacity of 600 beds, among the hospitals of the country. Following it by several years in the history of its development, the City Hospital of Minneapolis compares favorably with it at its present stage of evolution. Including a pavilion for contagious diseases, it provides for 360 patients. Hopewell Hospital, with 120 beds, a city sanatorium for tuberculous patients, is situated at the northern limits of the city. Its progressive superintendent, Dr. H. O. Collins, will welcome visitors to the hospital.

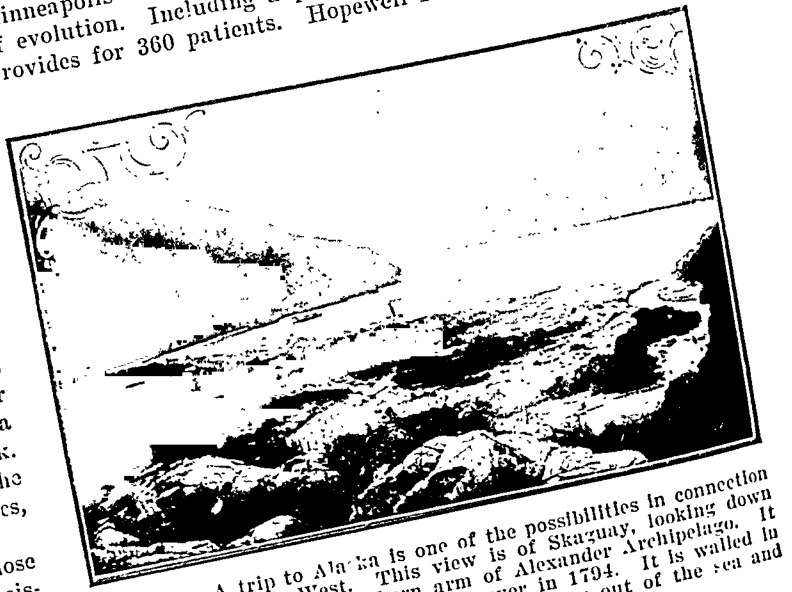


Fig. 14.—A trip to Alaska is one of the possibilities in connection with a trip to the West. This view is of Skaguay, looking down Lynn Canal, the great northern arm of Alexander Archipelago. It was explored and so named by Vancouver in 1794. It is walled in by high snow-peaked mountains that rise sheer out of the sea and is considered the most wonderful fiord in Alaska.

St. Barnabas' Hospital, the Northwestern Hospital, Asbury Methodist Hospital, St. Mary's Hospital, the Swedish Hospital, the Lutheran Deaconesses' Hospital, Thomas Hospital, Hill Crest Hospital, in Minneapolis; and St. Luke's Hospital, St. Joseph's Hospital, Luther Hospital, Bethesda Hospital, St. John's German Lutheran Hospital and the Norwegian Hospitals in St. Paul are the principal private institutions in the Twin Cities, and, these, for the most part, are under denominational control.

THE UNIVERSITY OF MINNESOTA

The University of Minnesota is to be the especial hostess of the American Medical Association. With its beautiful campus, having an area of eighty-five acres, and its group of thirty-three buildings and its numerous assembly-halls and lecture rooms, it offers a unique opportunity for the entertainment of so large a body of visitors meeting in so many sections for the transaction of general and scientific business. It is sufficiently remote from the busier quarters of the city to afford the desirable quietude for the Association's meetings, while it will give ample opportunity for arrangements which will enable members to remain within easy reach of any of the sections during each entire day.

On behalf of the University of Minnesota as a whole, President George E. Vincent presents to the members of the American Medical Association the following cordial and hospitable greeting:

A GREETING FROM THE UNIVERSITY

By President George E. Vincent

The University of Minnesota welcomes the members of the American Medical Association to an institution to which alone is entrusted the duty of medical education for this state. This unique responsibility imposes peculiar obligations as to staff, equipment and standards.

Our visitors will be warmly greeted by a *corps* of medical teachers and scientific investigators who have devoted themselves unsparingly to building up a center of instruction and research in the earlier years under conditions which might well have discouraged less earnest and enthusiastic men. To this group it will now be possible to add a number of other investigators and teachers of distinction.

The American Medical Association will hold many of its sessions in the new and modernly equipped buildings of the medical school. So far as material things can afford assurance of efficiency, the university feels unaffected pride in these laboratories which express the ideas and ideals of the staff.

The Elliott Memorial Hospital, under the complete control of the medical school administratively, medically and for teaching and investigation, represents an essential factor in modern medical education, a clinical hospital in close connection with laboratories, all under unified management. Visitors

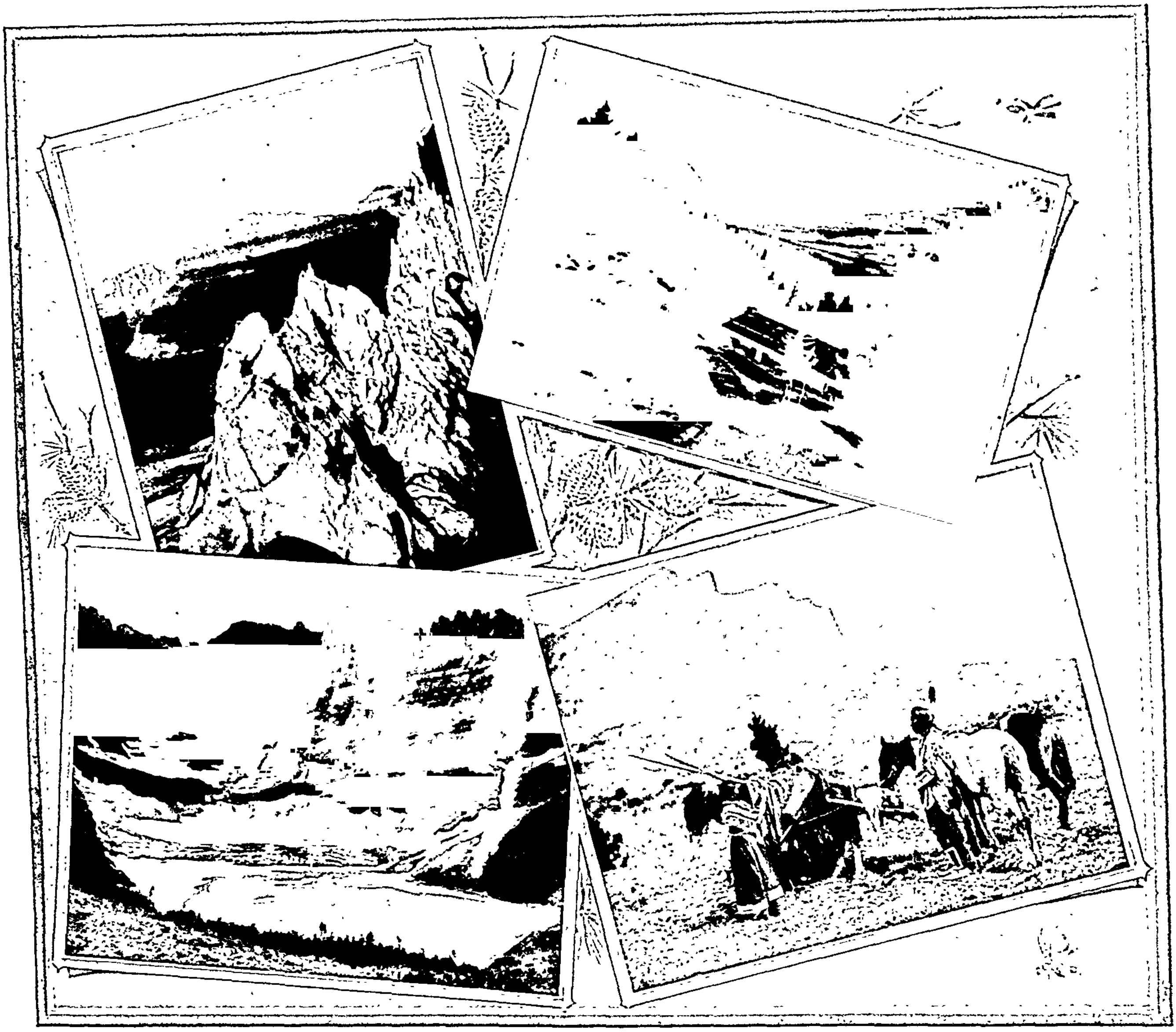


Fig. 15.—Views in Glacier National Park, to which there will be an excursion: a section of Blackfoot Glacier, left, above; Iceberg Lake, below; a part of St. Mary Camp on St. Mary Lake, right, above; Chief Three Bears and his squaw, packing up, below.

will have leisure, it is hoped, to visit the admirably administered hospitals of Minneapolis and St. Paul, which generously offer valuable clinical facilities to the medical school of the university.

The spirit and purpose of an institution are the key to its character. A university supported by the state can justify itself only by socializing its work, and testing this by the measure of public service.

The medical school of this university seeks to realize this ideal by insisting that the physician is primarily a public servant and not a private practitioner, that medical research is a fundamental social obligation, that popular education in medical knowledge is an essential type of university extension, that the training of public sanitarians is an institutional duty, that the exalting of ideals of personal character and of standards of professional conduct is at once the high privilege and noble ambition of a true center of medical investigation and teaching.

MAINTENANCE

The university as a whole was maintained during the past year at a cost of $1,254,859. The legislature has been asked to provide for an increased maintenance of $316,000.

GOVERNMENT

The university is governed by a board of regents, having eleven members, with the president of the university a member *ex officio*. By act of the board of regents, each school or college is autonomous, its faculty directing its domestic affairs, determining its particular educational policy and controlling its student body. A university senate has been created, of which all professors and associate professors of all faculties are members, to which is entrusted the consideration and conduct of the interests of the university as a whole.

REGISTRATION

The total registration of the past university year was 6,960. Included in this summary are collegiate students, 4,057; subcollegiate students (mainly in the agricultural schools), 2,590, and extension students, 313. At the last commencement 618 degrees were conferred.

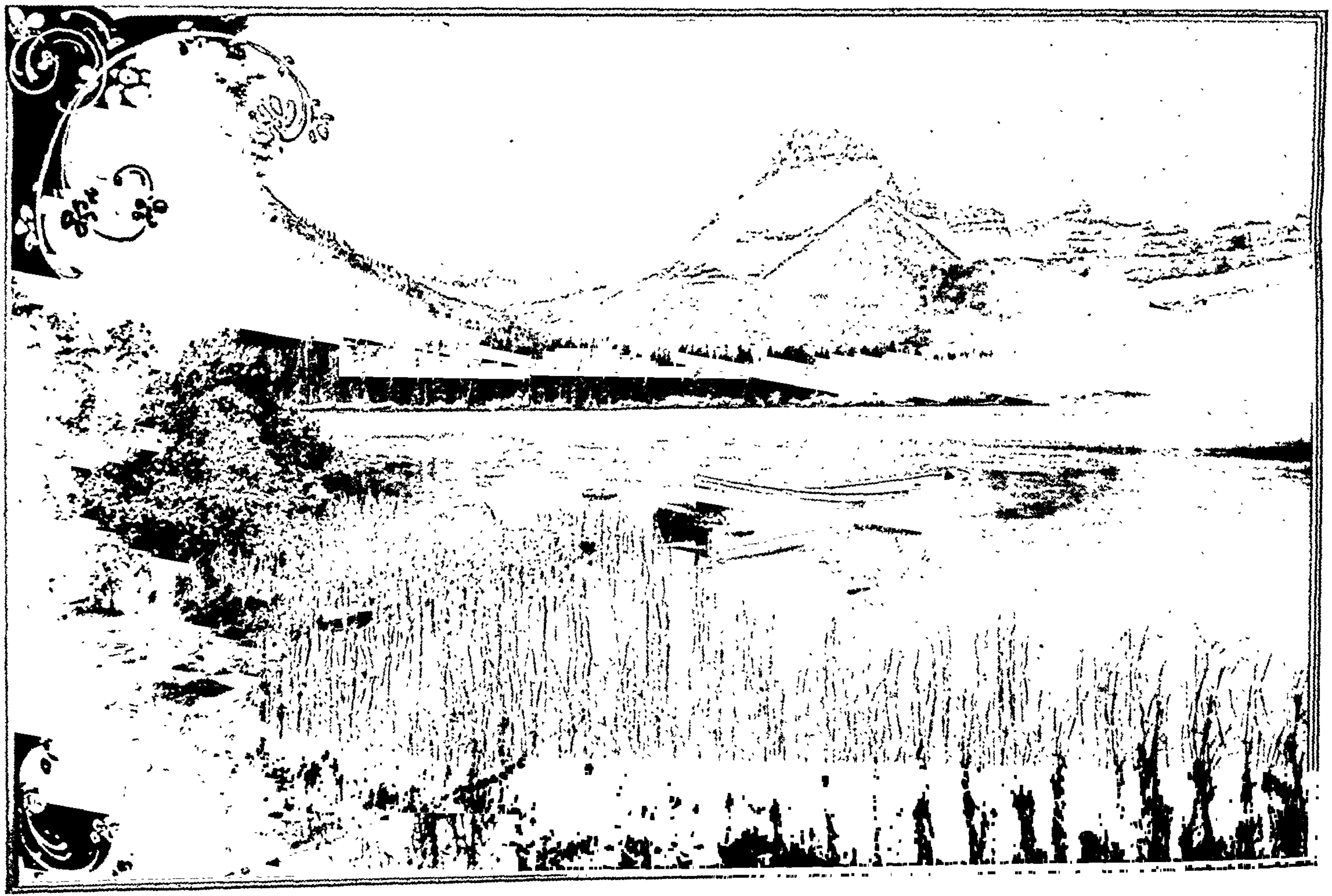


Fig 16.—Lake McDermott and Mt. Wilbur in Glacier National Park.

THE UNIVERSITY

The educational service that the University of Minnesota renders to the state is to be gaged (1) by the range of the educational opportunity it offers, and (2) by the agencies it employs for bringing this opportunity within the reach of the people of the state. Some indication of the measure of the university by these two standards is given below.

The university comprises: the College of Science, Literature and the Arts; the College of Engineering and Mechanic Arts; the Department of Agriculture, including the College of Agriculture and of Forestry; the Schools of Agriculture established at three points in the state; the School of Traction Engineering; the Summer School, and the main experiment station, with five substations; the Law School; the Medical School, with which is associated the School for Nurses; the College of Dentistry; the College of Pharmacy; the School of Mines and its Experiment Station; the School of Chemistry; the College of Education; the Graduate School, and the University Extension Division.

BUILDINGS

On the older campus of 60.9 acres are found twenty-five college buildings, occupied by the administration offices, the main library, the colleges of science, literature and the arts, education, dentistry and pharmacy, the schools of law, chemistry and mines, the graduate school, the extension division and, in part, by the college of engineering and the medical school.

On the newer campus, of 47.6 acres recently acquired, relatively unfinished and still largely occupied by dwelling-houses, have been completed, recently, the Main Engineering Building, the Experimental Engineering Laboratory, the Elliott Memorial Hospital and the two new medical buildings, known as Millard Hall and the Institute of Anatomy.

In near neighborhood, the new laboratory of the School of Chemistry is in process of construction at a cost of $405,000.

The Department of Agriculture occupies its own extensive campus of 409 acres at a distance of 3 miles from the general university, but to be connected with it shortly by an extended rapid-transit trolley line. There is to be found a group of twenty-seven buildings devoted to this department alone.

The legislature of 1913 has appropriated funds for remodeling the School of Mines Building, recently burned, for the College of Education; for remodeling the old School of Chemistry Building for the social uses of the men of the university; for a new Home Economics Building and a gymnasium and drill-hall on the Agricultural Campus; for a biologic laboratory; a service building for the university hospitals; a gymnasium for women on the main campus, and for sundry small buildings, alterations and new equipment. These appropriations for new buildings and equipment will total $1,059,250.

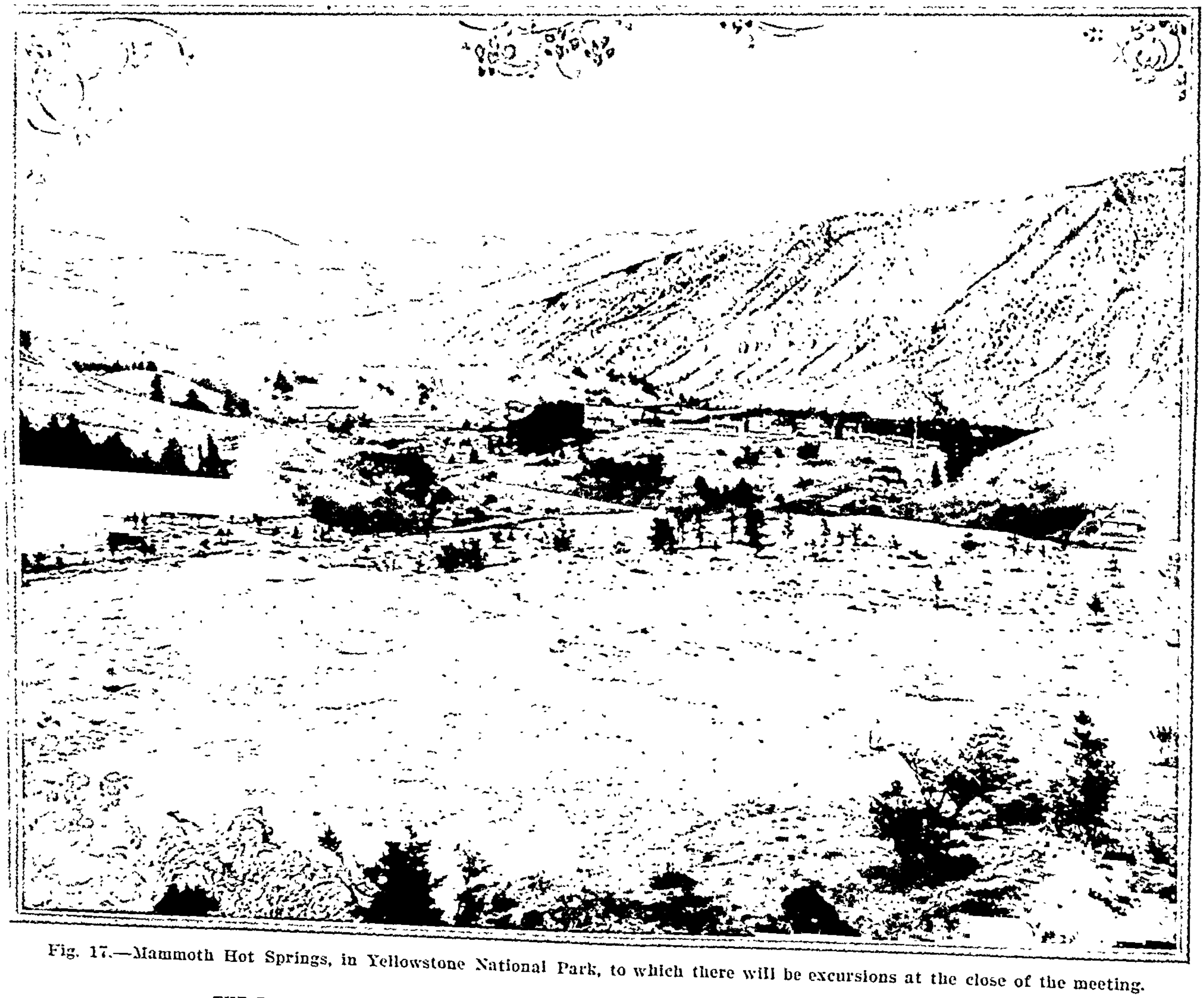


Fig. 17.—Mammoth Hot Springs, in Yellowstone National Park, to which there will be excursions at the close of the meeting.

THE FACULTIES

A university is great in measure, not of its material establishment alone, but of the adequate numbers and the capacity in teaching and research of its faculty staff. It is the policy of the administration to add new men of efficient training or recognized power as rapidly as the need for their appointment is shown and as the provisions of the budget permit.

UNIVERSITY EXTENSION

To bring the educational forces of the university within nearer reach of the people of the state, the board of regents has created a university extension board, consisting of the president, the director of the extension division and representatives of each participating school or college. Lecture courses, correspondence courses and university weeks of travel to points of the state are being organized and are meeting a warm welcome.

THE GRADUATE SCHOOL

The work of the Graduate School is a growing one. It extends itself to all departments of the schools or colleges prepared to undertake such instruction. Graduate students to the number of 159 were registered last year.

For the better development of this field, especially in the professional schools, a plan for the adoption of the four-quarter system, with summer sessions, is now under discussion by the university senate.

A fund for research work has been created and is administered by a special committee of the faculty. Research fellowships have been provided also, and are to be sought after in larger numbers.

SOCIAL SERVICE

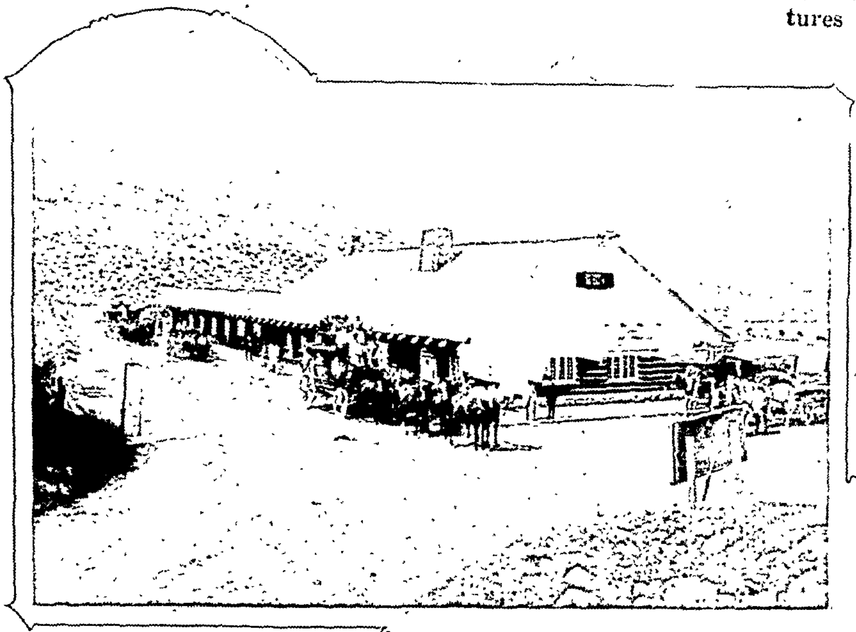
A good beginning has been made in the direction of university social centers. The gift of Shevlin Hall as a gathering-place for university women has done much for the social life and the self-government of the "co-eds." With the attainment of a men's building, also, a great advance will have begun.

The dormitory system has been initiated in the erection of Sanford Hall, a beautiful university home for women, under the general control of the dean of women.

University students' councils, both for men and for women, are organized and are extending their influence into the social as well as the educational life and discipline of the institution.

HEALTH INTERESTS

No very definite system of health regulation in the university has yet been achieved. Directors of physical culture for men and for women are in control of all matters relating to the physical development and well-being of the students. Military drill and gymnasium courses are compulsory for the under classes of men; but the latter are optional only for women, until better accommodations for them can be secured. Physical examinations of students in each year are conducted and records preserved. A trained nurse is employed to watch over the health of the women resident in Sanford Hall and in neighboring boarding-places.



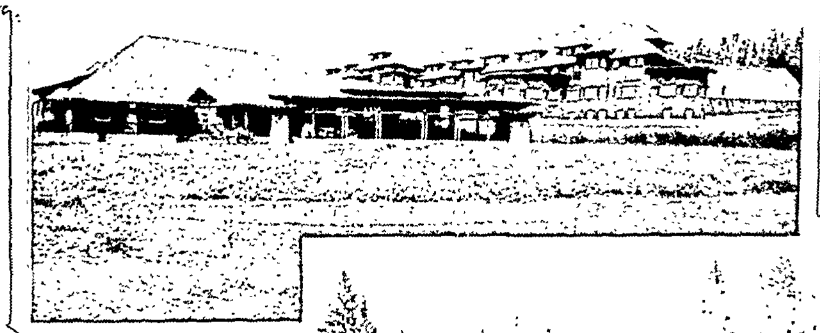


Fig. 18.—Views in Yellowstone Park: Tourists leaving the railroad station at Gardiner for the Yellowstone Park trip, above; Grand Canyon Hotel, center; bears at Yellowstone Lake, below.

The establishment of a model sanitary district, in charge of a health officer, and of an infirmary for students not resident in their own homes, are among the mooted problems of the near future.

MEDICAL EDUCATION IN MINNESOTA

Minnesota has been the first among the states to realize the ideal of medical education unified in a single university school under the full ownership and control of the state. First and last, eight private schools have existed in Minnesota, but each has died a natural death or has been merged—the last of them five years ago—into the university. That the state should control medical education in the interests of the people is more greatly to be desired than the police regulation of medical practice. A single strong school, amply housed and equipped, with a well-salaried and able administrative and teaching force, not as an affiliated body, but as an integral part of the state university and supported by a progressive state board of medical examiners, is the fortunate solution of the problem of medical education in Minnesota.

THE MEDICAL SCHOOL

This was established in 1888 and has just passed its quarter centennial. It occupies the Institute of Public Health and Pathology, the new Institute of Anatomy, the new Millard Hall, the Elliott Memorial Hospital, with a number of small dwelling houses for nurses, help and laundry (which are soon to be in part replaced by a modern service building), and a clinical building occupied by the outpatient department or dispensary.

Only second in importance to the unification of medical teaching in the state has been the acquirement by gifts and by appropriations of the university hospital system as an intrinsic part of the school, and with it directly owned and controlled by the university. It provides, at present, 136 beds, which number will be increased to 166 by transfer of domestic features to the new service building. A substantial beginning has thus been made toward a clinical equipment which the faculty expects will be enlarged to four or five hundred beds within a few years. For the immediate present, the fuller complement of clinical material is secured by the affiliation with the university of the medical staffs of the City Hospital of Minneapolis and the City and County Hospital of St. Paul.

REORGANIZATION

A reorganization of the medical school has been effected which becomes operative at the opening of the ensuing university year. A somewhat redundant teaching staff, the accrued product of a constructive period marked by the merging of the private schools, by the wide distribution of clinical services in the scattered hospitals of the Twin Cities and by the non-payment of clinical salaries, necessitating fragmentary contributions of teaching time, has been reduced from 184 to 120. The diminution is mainly in the clinical branches, to which the principle of regular compensation must now be applied. Of the charter members of the college, only four still remain in service.

The government of the school has been revised. The direct business and educational control is placed with an administrative board, consisting of the president, the dean, the secretary, the heads of departments and of one faculty member at large. This board is put into close touch with the faculty, which will include all professors and instructors, and will possess a power of review over the acts of the board. The departments of instruction have been reorganized also and recast. They will, hereafter, include departments of *anatomy, of physiology*, of pharmacology, of pathology, of public health and bacteriology, of medicine, of surgery and of obstetrics. The teaching of gynecology is absorbed into the two departments last named. The subject of chemistry is referred to the School of Chemistry. The department of public health is a new creation, combined with bacteriology, which is separated from pathology.

SCHOLARSHIP

Candidates for admission to medical courses must have had two years of high-school Latin and must win the degree of B.A. or B.S. to become eligible for the degree in medicine. Three years, for the one, and two years of study for the other, must be taken in the College of Science, Literature and the Arts, of this or some other recognized university, and must include, as required courses, one year in rhetoric, physics and biology, two years in chemistry and a reading knowledge of German or French. *For the B.A., one year in the medical* school, and for the B.S. two years complete the candidacy, provided a satisfactory standing in the four years of work has been attained. To the four years of medical study hitherto required has been added a fifth year, which may be spent either in an approved hospital internship or in advanced laboratory work. A main medical library is provided which, together with department libraries, catalogues 24,000 volumes.

THE SCHOOL FOR NURSES

The foundation of the university hospitals gave the opportunity for the creation of a university school for nurses under the jurisdiction of the medical faculty. It is the first training school for nursing women which has the same requirements for admission as academic colleges, and leads to a university degree. The school is attracting an educated and efficient body of women.

AFFILIATED COLLEGES

The students of the College of Dentistry and of Pharmacy receive instruction required in anatomy, physiology, pharmacology and bacteriology in the Medical School. Members of the faculties of these colleges, in turn, contribute to the teaching of medical students in oral hygiene, oral surgery and pharmacy.

PROGRAM OF OPENING MEETING

Minneapolis Auditorium, Nicollet Avenue and Eleventh Street,

Tuesday, June 17, 10:30

Music.

Call to Order. President, Abraham Jacobi, New York.

Invocation. Rev. James E. Freeman, D.D., Minneapolis.

Addresses of Welcome:

George Edgar Vincent, Ph.D., LL.D., President of the University of Minnesota.

H. H. Kimball, President of the Hennepin County Medical Society.

Hon. Wallace G. Nye, *Mayor* of the City of Minneapolis.

Hon. Adolph Olson Eberhart, Governor of Minnesota.

Report of the Committee on Arrangements. Frank C. Todd, Chairman.

Introduction and Installation of President-Elect John A. Witherspoon, Nashville, *Tenn.*

Address. John A. Witherspoon, President.

Music.

Note.—Many members will arrive in Minneapolis Tuesday morning, just in time for the opening meeting, which will be held down town. Unless they have time to go out to the university grounds and register and get back down town by 10:30, they should stay down town for the opening meeting. All the section proceedings are to be held in the various buildings on the grounds of the University of Minnesota.

THE PROGRAMS OF THE SECTIONS

Outline of the Scientific Proceedings—The *Preliminary Program* and the Official Program

The following papers are announced to be read before the various sections. The order here is not necessarily the order which will be followed in the Official Program nor is the list complete. The Official Program will be a pamphlet similar to those issued in previous years, and will contain the final program of each section with abstracts of the papers, also lists of committees, programs of the General Meeting and of the meetings of the House of Delegates, lists of entertainments, map of Minneapolis, etc. To prevent misunderstandings and to protect the interests of advertisers, etc., it is here announced that this Official Program will contain no advertisements. It is copyrighted by the American Medical Association and will not be distributed before the session. A copy will be given to each member on registration.

SECTION ON PRACTICE OF MEDICINE

Chairman, W. Jarvis Barlow, Los Angeles; Secretary, Roger S. Morris, Clifton Springs, N. Y.

Tuesday, June 17—2 p. m.

Chronic Arthritis. Leonard W. Ely, Denver.

Remote Effects of Lesions of the Prostate and Deep Urethra. Thomas McCrae, Philadelphia.

Studies on Uric Acid in the Blood and Urine, with Special Reference to the Influence of *Atophan.* James S. McLester, *Birmingham, Ala.*

Importance of Latent Conditions in the Production of Neurasthenic States. Charles P. Emerson, Indianapolis.

Value of the Tuberculin Reaction in Early Diagnosis of Tuberculosis. V. C. Vaughan, Jr., Detroit.

Artificial Pneumothorax for Relief of Advanced Pulmonary Tuberculosis. Charles L. Minor, Asheville, N. C.

Blood-Pressure Studies in Tuberculosis at High Altitudes. LeRoy S. Peters and E. S. Bullock, Silver City, N. Mex.

Rest and Repair in Pulmonary Tuberculosis. John W. Flinn, Prescott, Ariz.

Wednesday, June 18—9 a. m.

A Comparison Between Jacquet's Sphygmograph and Crehore's Micrograph in Cardiac Tracings. Alexander Lambert, New York.

Clinical Aspects of Hypertension. Joseph L. Miller, Chicago.

Clinical Significance of High and Low Auscultatory Pulse-Pressures. Willard J. Stone, Toledo, Ohio.

Perpetual Arhythmia. Hugo A. Freund, Detroit.

Relation of the Toxic Symptoms to the Pathologic Types of Goiter. H. S. Plummer, Rochester, Minn.

Diseases of Porto Rico. Elmer F. Otis, Penelas, Porto Rico.

Study of a Case of Congenital Hemolytic Jaundice. Ernest T. F. Richards, St. Paul, Minn.

Wednesday, June 18—2 p. m.

SYMPOSIUM ON SERUMS AND VACCINES

Federal Control Over the Manufacture of Serums and Vaccines John F. Anderson, Washington, D. C.

Treatment of Pneumonia by Specific Serums. Rufus J. Cole, New York.

Antistreptococcus Serum. George H. Weaver, Chicago.

The Treatment of Lobar Pneumonia with Partially Autolyzed Pneumococci and Pneumococcus Extracts. E. C. Rosenow, Chicago.

Typhoid Vaccination in the Army in 1912. Frederick F. Russell, Washington, D. C.

Thursday, June 19—9 a. m.

Gastroscopy, with Demonstration.
Henry H. Janeway, New York.

The Water-Trap Stomach: Symptomatology, Diagnosis and Treatment.
G. Reese Satterlee and L. T. LeWald, New York.

Points of Value to Be Derived from Roentgenoscopy of the Gastro-Intestinal Tract. R. Walter Mills, St. Louis.

The Permanent Place in Medicine of Roentgenography after a Bismuth Meal. Russell H. Boggs, Pittsburgh.

Cause and Treatment of Diarrhea.
Richard C. Cabot, Boston, and Haven Emerson, New York.

Carbohydrate Tolerance in Diagnosis.
Joseph C. Friedman and Solomon Strouse, Chicago.

Some Phases of Experimental Nephritis.
W. B. MacNider, Chapel Hill, N. C.

Cerebrospinal Fluid in the Diagnosis and Treatment of Syphilis. Walter V. Brem, Los Angeles.

Tuesday, June 19—2 p. m.

SYMPOSIUM ON LEPROSY

Dermatologic Aspects of Leprosy.
Isadore Dyer, New Orleans.

Clinical Aspects of Leprosy E. Boeckmann, St. Paul, Minn.

Bacteriology and Specific Therapy of Leprosy.
C. Duval, New Orleans

Public Health Aspects of Leprosy in the United States.
Rupert Blue, Washington, D. C.

SECTION ON SURGERY

Chairman, A. F. Jonas, Omaha; Secretary, Dean D. Lewis, Chicago

Tuesday, June 17—2 p. m.

Chairman's Address: The Surgeon and the Research Laboratory. A. F. Jonas, Omaha.

Posterior Gastro-Enterostomy in Acute Perforated Ulcer of the Duodenum. Report of Thirty Cases.
John B. Deaver, Philadelphia.

Postoperative Ileus. Angus McLean, Detroit.

Congenital Dislocation of the Knees, *with Report of Two Cases.* John W. Perkins, Kansas City, Mo.

Proctoclysis: An Experimental and Clinical Study.
Hugh H. Trout, Roanoke, Va.

Etiology and Significance of Membranes About the *Cecum and Colon.* David Cheever, Boston.

Anaphylaxis in the Diagnosis of Cancer.
J. Louis Ransohoff, Cincinnati.

Wednesday, June 18—9 a. m.

The External Bone Clamp Versus the Internal Bone Plate in Fractures of Long Bones. Leonard Freeman, Denver

The Mechanism of the Production of Fractures.
Emmett Rixford, San Francisco.

Surgical Management of Injuries to the Elbow-Joint, Primary and Secondary. John B. Murphy, Chicago.

Surgery of the Thyroid: Observations on Five Thousand Operations. Charles H. Mayo, Rochester, Minn.

Extrathoracic and Intrathoracic Esophagoplasty.
Willy Meyer, New York.

Wednesday, June 18—2 p. m.

Oration on Surgery: Who Shall Do Surgery?
W. D. Haggard, Nashville, Tenn.

SYMPOSIUM ON INFECTIONS

Chronic Focal Infection as a Causative Factor in Chronic Arthritis. Frank Billings, Chicago.

Surgical Lesions of the Kidney Associated with Disease of the Female Pelvic Organs.
John G. Clark, Philadelphia.

Infections of the Prostate and Seminal Vesicles, their Rôle in Toxemia. Hugh H. Young, Baltimore.

Chronic Suppurative Bone Diseases and Their Treatment: Demonstration of Plastic Models. Carl Beck, Chicago.

Injection of Boiling Water for Hyperthyroidism.
Miles F. Porter, Fort Wayne, Ind.

Thursday, June 19—9 a. m.

Nephritis as a Surgical Problem, and Its Treatment as a Preliminary to Operation. J. F. Percy, Galesburg, Ill.

Technic of Roentgenoscopy of the Gastro-Intestinal Tract, and *Interpretation of Screen and Plate Findings.*
R. D. Carman, Rochester, Minn.

The Added Responsibility of the Surgeon when Called on to Treat Surgical Lesions in Their Earliest Stages.
J. C. Bloodgood, Baltimore.

Fatal Peritoneal Folds and Their Relation to Postnatal Acute and Chronic Occlusions of the Large and Small Intestine. J. Rilus Eastman, Indianapolis.

Symptoms and Diagnosis of Membranous Pericolitis.
Jabez N. Jackson, Kansas City, Mo.

Radiographic Changes in Pituitary Disease.
Alfred Luger, *Boston.*

The Necessity of Preserving the Periosteum in Bone Transplantations. Clarence A. McWilliams, New York

Roentgenoscopy of the Liver and Biliary Passages.
James T. Case, Battle Creek, Mich.

Thursday, June 18—2 p. m.

Original Uses of the Bone-Graft in Surgery.
Fred H. Albee, New York.

SYMPOSIUM ON ANESTHESIA

Administration of Alkaloids Before Anesthesia.
Isabella C. Herb, Chicago.

Nitrous Oxid and Oxygen Anesthesia.
Harry G. Sloan, Cleveland.

Intratracheal Insufflation Anesthesia (Meltzer-Auer).
Charles H. Peck, New York.

Local Anesthesia. J. F. Mitchell, Washington, D. C.

Ether Percentages. W. M. Boothby, *Boston.*

Surgical Aspects of Intestinal Stasis, from an Anatomic Point of View. John E. Summers, Omaha.

Friday, June 20—9 a. m.

Gastric Tetany. W. L. Rodman, Philadelphia.

An *Experimental Study of the Mobilization of Ankylosed Joints.*
Nathaniel Allison, St. Louis, and Barney Brooks, Baltimore.

Therapeutic Possibilities of Transfusion.
Bertrand M. Bernheim, Baltimore.

Theory and Practice of Transfusion.
J. J. Hogan, San *Francisco.*

Thyroglossal Cyst and Fistula: Report of Three Cases.
Hermann B. Gessner, New Orleans.

SECTION ON OBSTETRICS, GYNECOLOGY AND ABDOMINAL SURGERY

Chairman, F. F. Simpson, Pittsburgh; Secretary, Brooke M. Anspach, Philadelphia

Tuesday, June 17—2 p. m.

Chairman's Address: Right-Sided Hypertension with Occasional Cardiac Dilatation as Postoperative Complications. F. F. Simpson, *Pittsburgh.*

Newer Methods of Reducing the Mortality of Pelvic Operations.
George W. Crile, Cleveland.

Postoperative Renal Infection.
Henry Dawson Furniss, New York.

Final Results Following Operations for Ectopic Pregnancy.
Richard R. Smith, Grand Rapids.

The Movable Kidney.
J. H. Carstens, Detroit.

Further Points on the Sterility of Women.
Edward Reynolds, Boston.

Wednesday, June 18—9 a. m.

Prolapse of the Uterus: Its Surgical Treatment.
Franklin H. Martin, Chicago.

Vagino-Uterine Prolapse and Its Effective Treatment.
E. E. Montgomery, Philadelphia.

The Anatomy and Surgical Utility of the Sacro-Uterine Ligaments.
George B. Somers, San Francisco.

A Study of the End-Results of the Webster-Baldy Operation.
John Osborn Polak, Brooklyn.

Tuberculous Salpingitis.
Philemon E. Truesdale, Fall River, Mass.

Infections in the Pelvis from a General Surgeon's Point of View.
John B. Murphy, Chicago.

Wednesday, June 18—2 p. m.

Cancer of the Stomach.
William J. Mayo, Rochester, Minn.

Cancer of the Uterus: Some Points to Be Emphasized in the Early Diagnosis.
Rufus B. Hall, Cincinnati.

Carcinoma of the Cervix Uteri.
A. Mackenrodt, Berlin.

Theoretical and Practical Foundations of a Radical Operation for Carcinoma of the Cervix.
Emil Ries, Chicago.

Radium in Gynecology.
Howard A. Kelly, Baltimore.

Heat in the Treatment of Inoperable Cancer of the Vagina and Uterus: Method and Results.
J. F. Percy, Galesburg, Ill.

Thursday, June 19—9 a. m.

Care of the Umbilical Stump: A Bacteriologic Study.
Fred L. Adair, Minneapolis.

A Cinematographic Presentation of the Care of Nursing Infants.
E. Gustav Zinke, Cincinnati.

Destructive and Constructive Changes in the Uterus Causing Hemorrhage.
John G. Clark, Philadelphia.

Biochemical Factors in the Causation of Uterine Hemorrhage.
J. Riddle Goffe, New York.

Treatment of Hemorrhage from the Non-Pregnant Uterus.
John B. Deaver, Philadelphia.

Intra-Abdominal Adhesions.
R. C. Coffey, Portland, Ore.

Thursday, June 19—2 p. m.

Report of Committee on the Question: Should the Puerperal Uterus Be Emptied of Ovular Remains in Presence of Infection, and if so, When?
Joseph B. DeLee, Chicago.

Emptying the Uterus as One of the Methods of Treating Ante-Partum Eclampsia.
Reuben Peterson, Ann Arbor, Mich.

What Is the Proper Place for Abdominal Cesarean Section in the Treatment of Placenta Praevia?
Henry D. Fry, Washington, D. C.

The Serodiagnosis of Pregnancy and Its Place in Practical Obstetrics.
Henry Schwarz, St. Louis.

The Essentials of Sanatorium Treatment of Tuberculous Gravidae and Puerperae and Their Children.
Charles S. Bacon, Chicago.

The Value of Abdominal Measurements in Pregnancy: A Statistical Study.
Alfred Baker Spalding, San Francisco.

Friday, June 20—9 a. m.

Experimental Transplantation of Intestine After Resection of the Sigmoid, with Special Reference to Resection for Malignant Diseases of the Pelvis.
J. Shelton Horsley, Richmond, Va.

Local and Spinal Anesthesia in Gynecology and Obstetrics.
George Gellhorn, St. Louis.

Spinal Anesthesia in Gynecology, Obstetrics and Abdominal Surgery.
W. Wayne Babcock, Philadelphia.

The Thyroid Gland and Its Degeneration in Relation to Obstetrics and Gynecology.
Channing W. Barrett, Chicago.

Membranous Dysmenorrhea.
K. I. Sanes, Pittsburgh.

SECTION ON OPHTHALMOLOGY

Chairman, Hiram Woods, Baltimore; Secretary, George S. Derby, Boston

Tuesday, June 17—2 p. m.

Chairman's Address.
Hiram Woods, Baltimore.

Physiologic Optics the Basis for Teaching Clinical Ophthalmology.
Walter B. Lancaster, Boston.

Some Modern View-Points with Regard to Glaucoma.
Robert Sattler, Cincinnati.

Experimental Study of Intra-Ocular Pressure and Ocular Drainage.
Mark J. Schoenberg, New York.

Hydrophthalmos. With a Histologic Report of Two Cases, One of Which Presented a Congenital Coloboma.
William Zentmayer, Philadelphia.

Wednesday, June 18—9 a. m.

Equivalent Values in Spectacle Lenses.
William E. Shahan, St. Louis.

Trachoma, Its Prevalence and Control Among Immigrants.
John McMullen, Washington, D. C.

Trachoma Among the Indians.
J. W. Schereschewsky, Washington, D. C.

Trachoma Among the Mountaineers of Eastern Kentucky. Illustrated by Lantern Slides.
J. A. Stucky, Lexington, Ky

Wednesday, June 18—2 p. m.

Metastatic Ophthalmia. Report of Three Cases, One of Which Resulted in Recovery of Vision.
William H. Wilder, Chicago.

The Diagnostic and Therapeutic Uses of Tuberculin in Ocular Diseases, with a Review of Some of the Claims Made for It.
A. Edward Davis, New York.

Phlyctenular Ophthalmia and Episcleritis. A Study of the Bearing of the Newer Research on Their Etiology as the Basis of a Scientific Therapy.
Will Walter, Chicago.

The Temperature of the Conjunctiva.
Lucien Howe, Buffalo, N. Y.

The Topical Diagnostic Value of the Hemopic Pupillary Reaction and the Wilbrand Hemianoptic Prism Phenomenon with a New Method of Performing the Latter.
Clifford B. Walker, Boston.

Preventable Blindness: A Challenge to the Professions.
Henry Copley Greene, Boston.

Thursday, June 19—9 a. m.

Ocular Vertigo.
Allen Greenwood, Boston.

Is the Percentage of Myopic Eyes Diminishing?
Samuel D. Risley, Philadelphia.

The Asthenopia of Muscular Imbalance.
Howard F. Hansell, Philadelphia.

Apparent Esophoria and Its Relation to Convergence Insufficiency.
H. B. Lemere, Omaha.

Some Comparative Measurements of the Skull and Sella Turcica, with the Report of Eight Cases.
John B. Potts, Omaha.

Thursday, June 19—2 p. m.

Blepharochalasis. Report of Two Cases with the Microscopic Examination. Walter Baer Weidler, New York.

Artificial Illumination a Factor in Ocular Discomfort.
Nelson M. Black and F. A. Vaughn, Milwaukee, Wis.

Postcataract Extraction Delirium. Report of Eleven Cases.
Walter R. Parker, Detroit.

The Surgical Treatment of a Certain Type of Penetrating Wounds of the Sclera by Means of a Double Conjunctival Flap. Lee Masten Francis, Buffalo, N. Y.

Primary Lues of the Bulbar Conjunctiva.
Charles Nelson Spratt, Minneapolis.

SECTION ON LARYNGOLOGY, OTOLOGY AND RHINOLOGY

Chairman, Robert Levy, Denver; Secretary, Burt R. Shurly, Detroit

Tuesday, June 17—2 p. m.

Chairman's Address: The Dignity of Otolaryngology.
Robert Levy, Denver.

Conservative Surgery of the Nasal Septum with Description of a "Limited" Submucous Operation.
I. W. Voorhees, New York.

Etiology, Diagnosis, Prognosis and Treatment of Sphenopalatine Ganglion Neuralgia. G. Sluder, St. Louis.

Untoward Results of the External Operation on the Frontal Sinus. R. H. Skillern, Philadelphia.

Wednesday, June 18—9 a. m.

SYMPOSIUM ON THE LARYNX

Chronic Laryngitis. Emil Mayer, New York.

Diagnosis and Treatment of Paralysis of the Larynx.
E. Fletcher Ingals, Chicago.

Diagnosis and Treatment of Syphilitic Laryngitis.
J. C. Beck, Chicago.

Diagnosis and Treatment of Laryngeal Tuberculosis.
F. L. Dennis, Colorado Springs, Colo.

Differential Diagnosis and Treatment of Malignant Diseases of the Larynx. Chevalier Jackson, Pittsburgh.

Clinical Principles of the Functional Disturbances of the Voice (with special consideration of the singing voice).
T. S. Flatau, Berlin.

Wednesday, June 18—2 p. m.

Vaccine Therapy. T. B. Cooley, Detroit.

SYMPOSIUM ON THE RELATION OF INTERNAL MEDICINE TO DISEASES OF THE NOSE, THROAT AND EAR

Internal Medicine. B. W. Sippy, Chicago.

Neurology. C. D. Camp, Ann Arbor, Mich.

Ophthalmology. W. R. Parker, Detroit.

Thursday, June 19—9 a. m.

Some Pathologic Changes in the So-called Otosclerosis with Suggestions as to Treatment.
Philip Hammond, Boston.

Chronic Obstructive Middle-Ear Deafness.
G. E. Shambaugh, Chicago.

Temporosphenoidal Abscess with General Meningeal Symptoms. Drainage Through the Cisterna Magna. Mastoid Operation. Recovery. F. P. Emerson, Boston.

Statistical Report of Hearing Following the Radical Mastoid Operation. Tampon vs. Skin-graft.
C. F. Welty, San Francisco, Cal.

Methods of Measuring Auditory Acuity.
Walter A. Wells, Washington, D. C.

Thursday, June 19—2 p. m.

Prostheses for the Improvement of Hearing.
W. Sohier Bryant, New York.

Tuberculosis of the Middle Ear; with Special Reference to Its Labyrinthine Complications.
Hill Hastings, Los Angeles.

Technic of Tonsillectomy.
George L. Richards, Fall River, Mass.

Tonsillectomy by the Sluder Method.
A. M. Corwin, Chicago.

Results of Tonsillectomy Under Local Anesthesia.
B. D. Sheedy, New York.

SECTION ON DISEASES OF CHILDREN

Chairman, Henry D. Chapin, New York; Secretary, Frank C. Neff, Kansas City, Mo.

Tuesday, June 17—2 p. m.

Chairman's Address: Radiographic Studies of the Intestines of Infants. Henry Dwight Chapin, New York.

The Roentgen Ray in the Diagnosis of Obscure Abdominal Conditions in Infancy and Childhood.
John Lovett Morse, Boston.

The Roentgen Ray in Pyloric Obstruction.
L. R. DeBuys, New Orleans.

Duodenal Ulcer in Infancy. Borden Veeder, St. Louis.

Rupture of Mediastinal Lymph-Node into Bronchus.
A. L. Goodman, New York.

Nephrolithiasis in Infancy.
Arthur N. Collins, Duluth, Minn.

Wednesday, June 18—9 a. m.

The Treatment of Rheumatic Endocarditis from an Out-Patient Department. William Palmer Lucas, Boston.

Functional Heart Murmurs, Cardiac Arhythmias and Slow Heart-Rate in Children.
Samuel McClintock Hamill, Philadelphia.

Clinical Report and Post-Mortem Findings in a Case of a Child with a Congenital Heart Disease Dying from Acute Nephritis. H. M. McClanahan, Omaha.

Acute Acid Intoxication in Children.
Thomas C. McCleave, Berkeley, Cal.

The Protein Poison and Its Relation to Disease.
Victor C. Vaughan, Ann Arbor, Mich.

The Nature of Ileocolitis from an Etiologic Standpoint.
Clifford G. Grulee, Chicago.

Nutritional Injuries, Produced by Starch.
I. A. Abt, Chicago.

Wednesday, June 18—2 p. m.

Status Thymolymphaticus: Four Cases in One Family.
Walter L. Bierring and J. A. Goodrich, Des Moines.

Transfusion in the Therapeutics of Infancy.
Thomas B. Cooley, Detroit.

Treatment of Inguinal Hernia in Children.
Arthur E. Hertzler, Kansas City, Mo.

General Anesthesia in the Surgery of Childhood.
William Cavan Woolsey, Brooklyn.

Spasmophilia with Especial Reference to Familial Reactions and "Repeated Absences."
Julius Parker Sedgwick, Minneapolis.

Desirability of Early Diagnosis of Mental Deficiency.
A. C. Rogers, Faribault, Minn.

Thursday, June 19—9 a. m.

Vulvovaginitis in Children. Richard M. Smith, Boston.

Roseola Infantum. John Zahorsky, St. Louis.

Report of Case of Staphylococcus Meningitis in Child.
Frank Spooner Churchill, Chicago.

Atypical Forms of Meningitis (Posterior Basic *Meningitis*; Aseptic Meningitis). A. Sophian, Kansas City, Mo.

Leukocyte Counts in Epidemic Meningitis and Pneumonia.
Julius H. Hess, Chicago.

Precocious Menstruation. G. P. Gengenbach, Denver.

Thursday, June 19—2 p. m.

The Hospital Management of Contagious Diseases.
D. L. Richardson, Providence, R. I.

Federal Children's Bureau; the Law, the Organization, the Scope of Its Present Work.
Julia C. Lathrop, Washington, D. C.

The Etiology of Artificial Feeding; a Plea for the Study of Breast-Milk Problems. H. Lowenburg, Philadelphia.

Some Economic and Sociologic Problems Related to Nutrition and Growth of Infants.
B. Raymond Hoobler, New York.

Diseases and Defects of Older Children as Revealed by School Medical Inspection—A Broadening of the Field of Pediatrics. Walter S. Cornell, *Philadelphia.*

A Consideration of Tardy Syphilis.
H. H. Yerrington and Florence Holsclaw, San Francisco.

Friday, June 20—9 a. m.

JOINT SESSION OF THE SECTION ON DISEASES OF CHILDREN WITH THE AMERICAN ASSOCIATION OF MEDICAL MILK COMMISSIONS

Certified Milk. T. C. McCleave, Berkeley, Cal.

The Efficiency of the Medical Milk Commission. Graphically Illustrated. Henry L. Coit, Newark, N. J.

SECTION ON PHARMACOLOGY AND THERAPEUTICS

Chairman, Ray L. Wilbur, San Francisco; Secretary, M. I. Wilbert, Washington, D. C.

Tuesday, June 17—2 p. m.

Chairman's Address: The Teaching of Therapeutics
Ray L. Wilbur, San Francisco.

Address of the Delegation from the American Pharmaceutical Association.

Yesterday, To-day and To-morrow: The Activities of the Council on Pharmacy and Chemistry.
Torald Sollmann, Cleveland.

The Quality of Drugs Sold to Dispensing Physicians.
W. A. Puckner, Chicago.

Carelessness in the Pharmacy as a Reason for a Restricted Materia Medica. M. I. Wilbert, Washington, D. C.

Biochemical Research. John A. Handy, Minneapolis.

The Physiologic Testing of Ergot.
A. C. Crawford, Palo Alto, Cal.

Wednesday, June 18—9 a. m.

Treatment of Anginal Pains.
Charles Lyman Greene, Minneapolis.

Internal Hemorrhages: Can We Control Them?
Frank Billings, Chicago.

Diuretics in Cardiac Diseases: General Review.
A. D. Hirschfelder, Baltimore.

The Value of Diuretic Drugs in Acute Experimental Nephritis.
Henry A. Christian, Boston.

Therapy of Chronic Renal Disease. C. F. Hoover, Cleveland.

Therapeutic Pneumothorax as a Palliative Measure: A Report of Twenty Cases from the Cincinnati Tuberculosis Hospital.
Kennon Dunham and Charles S. Rockhill, Cincinnati.

Wednesday, June 18—2 p. m.

SYMPOSIUM ON SERUMS AND VACCINES

Federal Control over the Manufacture of Serums and Vaccines.
John F. Anderson, Washington, D. C.

Treatment of Pneumonia by Specific Serums.
Rufus I. Cole, New York.

Antistreptococcus Serum. George H. Weaver, Chicago.

The Treatment of Lobar Pneumonia with Partially Autolyzed Pneumococci and Pneumococcus Extracts.
E. C. Rosenow, Chicago.

Typhoid Vaccination in the Army in 1912.
Frederick F. Russell, Washington, D. C.

Thursday, June 19—9 a. m.

Diet in Hepatic Cirrhosis. N. S. Davis, Chicago.

Venous Blood-Pressure as Influenced by the Drugs Employed in Cardiovascular Therapy.
Joseph A. Capps and S. A. Matthews, Chicago.

The Elimination of the Digitalis Bodies.
Robert A. Hatcher, New York.

Clinical Observations on the Emetic Action of Digitalis.
Cary Eggleston, New York.

The Solubility of White Leads in Human Gastric Juice and Its Bearing on the Hygiene of the Lead Industries.
A. J. Carlson, Chicago.

The Bromid Question Experimentally Considered.
Charles W. Greene, Columbia, Mo.

Thursday, June 19—2 p. m.

SYMPOSIUM ON PHYSICAL THERAPEUTICS

Hydrotherapy in Nervous Fatigue.
Curran Pope, Louisville, Ky.

Some Aspects of Hydrotherapy in the United States.
H. M. Hallock, Hot Springs, Ark.

Kinesitherapy. R. Tait McKenzie, Philadelphia.

Radium in Internal Machine. L. G. Rowntree, Baltimore.

Rational Roentgenotherapy by Measured Doses.
Sidney Lange, Cincinnati.

What Can be Done in Cancer with Roentgen Rays?
W. A. Pusey, Chicago.

Sarcoma Successfully Treated by the Roentgen Rays: Report of Cases, with Lantern Demonstrations.
G. E. Pfahler, Philadelphia.

SECTION ON PATHOLOGY AND PHYSIOLOGY

Chairman, A. W. Hewlett, Ann Arbor, Mich.; Secretary, William Ophüls, San Francisco.

Tuesday, June 17—2 p. m.

Chairman's Address: The Relation of Internal Medicine to Pathology and Physiology.
A. W. Hewlett, Ann Arbor, Mich.

SYMPOSIUM ON DIPLOCOCCUS AND STREPTOCOCCUS INFECTIONS

Streptococcus Sore Throat. Its Origin and Transmission.
J. A. Capps, Chicago.

The Relation of Streptococci to Arthritis.
D. J. Davis, Chicago.

Studies on Rheumatism, Articular and Muscular
E. C. Rosenow, Chicago.

A Biologic Classification of Pneumococci by Means of Immunity Reactions and the Relation of Certain Varieties to the Clinical Course of Lobar Pneumonia in Man. A. R. Dochez and L. P. Gillespie, New York.

Wednesday, June 18—9 a. m.

Some New Observations on the Physiology of the Stomach in Man and in Dogs.
A. J. Carlson, *Chicago.*

Movements of the Empty Stomach in Dogs During the Course of Pancreatic Diabetes.
A. B. Luckhardt, Chicago.

Evidences of Fat Absorption by the Mucosa of the Mammalian Stomach.
Charles W. Greene, Columbia, Mo.

The Physiology of the Pylorus, Pilleus Ventriculi and Duodenum, as Observed Radiographically.
Lewis Gregory Cole, New York.

Some Physiologic Properties of Diaphragm Muscle.
Frederic S. Lee, New York, and A. E. Guenther, Lincoln, Neb.

A Comparative Study of Some Functional Renal Tests.
J. H. Agnew, Ann Arbor, Mich.

A Clinical Study of Hypercholesteremia.
H. B. Schmidt, Ann Arbor, Mich.

Wednesday, June 18—2 p. m.

A Problem in Embryonic Nutrition.
Winfield S. Hall, Chicago.

The Relation Between Functional Activity and Depression in Nerve Cells from Anatomic Analysis.
D. H. Dolley, Columbia, Mo.

Overresponse to Affective Stimuli from Stationary Cortical Lesions. Report of a Case.
G. Wilse Robinson, Kansas City, Mo.

Further Observations with a Saccharomycete.
Lorena M. Breed, Pomona, Cal.

Report of a Case in Which the Bacillus Fusiformis Was Isolated from the Blood.
W P Larson, Minneapolis.

Tuberculosis of the Uterus with a Report of Three Cases.
Jessie B Hudson, Philadelphia.

Thursday, June 19—9 a. m.

Studies on Experimental Nephritis *Produced by Tartrates.*
Frank P. Underhill and Samuel Goldsmith, New Haven, Conn., and H Gideon Wells, Chicago.

The Relation of the Pathology and the Clinical Symptoms of Simple and Exophthalmic Goiter.
Louis B. Wilson, Rochester, Minn.

The Iodin Content of the Human Thyroid.
E. V. Smith, Rochester, Minn.

A Comparative Study of the Effects on Blood Pressure of Goiter Extracts, Goiter Serums and Other Substances.
A. H. Sanford, Rochester, Minn.

The Relation of Acapnia to Shock.
Henry H. Janeway, New York.

Cloudy Swelling. E. T. Bell, Minneapolis.

Local Lesions Following Intramuscular Injections of Salvarsan and Neosalvarsan.
H. E. Robertson, Minneapolis.

SECTION ON STOMATOLOGY

Chairman, Virgil Loeb, St. Louis; Secretary, Eugene S. Talbot, Chicago

Tuesday, June 17—2 p. m.

Chairman's Address: Fields for Research in Oral Surgery.
Virgil Loeb, St. Louis.

Social Ethics. E. M. Wooley, Winona, Minn.

Differential Diagnosis of Mouth Lesions.
Stewart L. McCurdy, Pittsburgh.

Wednesday, June 18—9:30 a. m.

Correction of Impediments of Speech in Our Public Schools.
H. F. McBeath, Milwaukee, Wis.

Pathology of Root-Findings. Vida A. Latham, Chicago.

Responsibility of Dentist and Physician in Regard to Mouth Infections and Their Relation to Constitutional Effects.
Thomas B. Hartzell, Minneapolis.

Bachelor of Medicine: The Need of This New Degree.
William C. Fisher, New York.

Wednesday, June 18—2 p. m.

Etiology of Trifacial Neuralgia or Tic Douloureux and Clinical Treatment. Nelson T. Shields, New York.

A Method of Closing a Sinus Between the Antrum of Highmore and the Mouth. L. W. Dean, Iowa City, Iowa.

Treatment of Loose Teeth Due to Inflammatory Degeneration of the Gums and Alveolar Process.
Joseph Head, Philadelphia.

Bacteriology of Pyorrhea Alveolaris.
Claude P. Brown, Philadelphia.

Bacteria of the Mouth. A. H. Levings, Milwaukee, Wis.

Thursday, June 19—9:30 a. m.

Infective Cysts of the Jaws. F. B. Moorehead, Chicago.

Arrested Development of the Superior Maxillae in Relation to *Mental and Physical Efficiency.*
Joseph S. Evans, Madison, Wis.

Relation of Mouth-Disease to Bodily Health.
Edward H. Baker, Chicago.

Surgical Treatment of Post-Operation Lip and Palate Defects.
George V. I. Brown, Milwaukee, Wis.

The Early Recognition and Treatment of Cancer of the Mouth. G. Betton Massey, Philadelphia.

Thursday, June 19—2 p. m.

Interstitial Gingivitis and Pyorrhea Alveolaris.
Eugene S. Talbot, Chicago.

SECTION ON NERVOUS AND MENTAL DISEASES

Chairman, Howell T. Pershing, Denver; Secretary, George A. Moleen, Denver

Tuesday, June 17—2 p. m.

Chairman's Address: Neurasthenia an Increased Susceptibility to Emotion. Howell T. Pershing, Denver.

Premonitory Auras in Alcoholic Neuroses.
T. D. Crothers, Hartford, Conn.

Practical Problems Which Confront the Neurologist.
Theodore Diller, Pittsburgh.

Diagnosis, Prognosis and Treatment of General Paresis.
Charles R. Ball, St. Paul.

Pathologic Findings in Insanity.
H. D. Valin, Mankato, Minn.

Wednesday, June 18—9 a. m.

Meningeal Tumors of the Encephalon: Report of a Case, Including Pathologic Findings.
F. E. Coulter and J. S. Foote, Omaha.

A Tumor *of the Hypophysis in Acromegaly: A Clinical* and Post-Mortem Report, with Photomicrographs.
Julius Grinker, Chicago.

Tumors of the Crus Cerebri.
John H. W. Rhein, Philadelphia.

Acute Types of Disseminated Sclerosis and a Case of Myotonia Atrophica.
Robert Foster Kennedy, New York

Symptomatology of Multiple Sclerosis.
L. Harrison Mettler, Chicago.

Wednesday, June 18—2 p. m.

Two Cases of Circulatory Disturbance of the Brain.
C. Eugene Riggs and E. M. Hammes, St. Paul.

Intermittent Closing of Cerebral Arteries in Its Relation to Apoplexy. Alfred Gordon, Philadelphia.

Epilepsy and Paresis in Railway Engineers and Firemen.
C. D. Camp, Ann Arbor, Mich.

Exudative Encephalitis.
Albert E. Sterne, Indianapolis.

Morphinomania and Its Treatment.
R. E. Bering, San Francisco.

Thursday, June 19—9 a. m.

Further Notes on the Preneurasthenic and Preinsane Conditions. Ross Moore, Los Angeles.

The Conception of Homosexuality: Its Theories, Psychologic Mechanisms and Treatment. A. A. Brill, New York.

A Division of the Auditory Nerve for Persistent Tinnitus and Vertigo. Charles H. Frazier, Philadelphia.

Demonstration of Lange's Goldsol Test of the Cerebrospinal Fluid. B. W. Sippy, Chicago.

Thursday, June 19—2 p. m.

Unusual Symptoms of Tabes Dorsalis.
T. H. Weisenburg, Philadelphia.

Multiglandular Syndromes and the Nervous System, with Lantern-Slide Demonstration.
D'Orsay Hecht, Chicago.

The Interpretation of the Scaphoid Type of Scapula.
William W. Graves, St. Louis.

Occlusion of the Posterior Inferior Cerebellar Artery. Report of a Case. G. Wilse Robinson, Kansas City, Mo.

Two Cases of Tumor of the Pons: I. Sarcoma; II. Glio-Sarcoma with Hemorrhage.
W. H. Bodenstab, Bismarck, N. D.

Certain Nervous Phenomena in Pernicious Anemia.
C. Eugene Riggs, St. Paul.

SECTION ON DERMATOLOGY

Chairman, Joseph Zeisler, Chicago; Secretary, Howard Fox, New York City

Tuesday, June 17—2 p. m.

Chairman's Address: Our Tendency to Fads.
Joseph Zeisler, Chicago.

Two Cases of Pemphigus Foliaceus. J. B. Kessler, Iowa City.

An Anomalous Case of White-Spot Disease.
H. H. Hazen, Washington, D. C.

Comparison of Methods of Treating Epithelioma.
Russell H. Boggs, Pittsburgh.

Radium in Skin Diseases. Frank E. Simpson, Chicago.

The Massive Dose X-Ray Method in the Treatment of Skin Diseases. George M. MacKee, New York.

Neuromas of the Skin (with Lantern-Slide Demonstration).
M. L. Heidingsfeld, Cincinnati.

Angioma Serpiginosum (Infective Angioma of Hutchinson) with Report of a Very Extensive Case.
Fred Wise, New York.

Wednesday, June 18—9 a. m.

Demonstration of Patients.

The Fight Against Syphilis as a Plague in the Light of the Latest Researches. E. Hoffmann, Bonn, Germany.

Two and One-Half Years' Experience with Salvarsan and Neosalvarsan; Technic, Results and Question of Neurorecidive.
William Thomas Corlett and Harold Newton Cole, Cleveland.

Salvarsan and Profeta's Law. A. Ravogli, Cincinnati.

A Study of the Spinal Fluid in One Hundred Cases of Syphilis.
M. F. Engman and Rudolph Buhman, St. Louis.

Comparative Study of Antigens for the Wassermann Reaction.
H. R. Varney and F. W. Baeslack, Detroit.

Wednesday, June 18—2 p. m.

The Histopathology of Pompholyx.
Richard L. Sutton, Kansas City.

Skin Diseases Among the Indians of Oklahoma.
Everett S. Lain, Oklahoma City

Newer Cutaneous Mycoses.
Ernest Dwight Chipman, San Francisco.

Cutaneous Affections of Childhood. Alfred Schalek, Omaha.

"Cancer en Cuirasse" on Thigh. Marcus Haase, Memphis.

Thursday, June 19—9 a. m.

Demonstration of Patients.

Relation of Diabetes to Various Dermatoses.
Burnside Foster, St. Paul.

Relation of Certain Changes in the Urine to Various Skin Diseases. Henry C. Baum, Syracuse.

Empiricism in Dermatologic Therapeutics.
M. L. Ravitch, Louisville.

Primary Sarcoma of the Lower Lip. A. J. Markley, Denver.

Idiopathic Atrophy of the Skin with Report of a Case.
H. G. Irvine, Minneapolis.

Mycosis Fungoides Following Psoriasis.
Howard Fox, New York.

SECTION ON PREVENTIVE MEDICINE AND PUBLIC HEALTH

Chairman, Guy L. Kiefer, Detroit; Secretary, C Hampson Jones, Baltimore

Tuesday, June 17—2 p. m.

Chairman's Address and Oration on State Medicine: Progress in Public Health Work. Guy L. Kiefer, Detroit.

Morbidity Reports: Their Purpose and Present Status.
J. W. Trask, Washington, D. C.

The Need for Whole-Time Health Officers.
Harold B. Wood, Rochester, Minn.

Wednesday, June 18—9 a. m.

Experiences of a Health Officer in Porto Rico.
E. F. Otis, Penelas, Porto Rico.

Rural Hygiene: Its Relation to Municipal Health.
Walton Forrest Dutton, Carnegie, Pa.

The Treatment of Diphtheritic Carriers.
Henry Albert, Iowa City, Iowa.

Public Health Work. W. C. Rucker, Washington, D. C.

Wednesday, June 18—2 p. m.

Duration of Immunity Following Small-Pox.
A. W. Lescohier, Detroit.

The Value of Sanitation as Applied to Railways and Other Large Corporations.
M. Clayton Thrush, Norwich, N. Y.

The Epidemiology of Paratyphoid Fever.
A. W. Freeman, Richmond, Va.

Isolation of the Typhoid Bacillus from Milk Which Caused a Typhoid Outbreak.
William Royal Stokes and Harry W Stoner, Baltimore.

Thursday, June 19—9 a. m.

Field Work in Tuberculosis. Mary E. Lapham, Highland, N. C.

Early Diagnosis of Pulmonary Tuberculosis.
V. C. Vaughan, Jr., Detroit.

Thursday, June 19—2 p. m.

Preventive Medicine. J. R. Williams, Rochester, N. Y.

The Backward Child in School.
Francis Fronczak, Buffalo, N. Y.

Production of Agglutinins and Bacteriolysins by Inoculation with Mixed Typhocolon Vaccine.
C. J. Hunt, Harrisburg, Pa.

The Use of Blood Agar in Routine Examination of Milk Sediments. F. W. Hachtel, Baltimore.

SECTION ON GENITO-URINARY DISEASES

MEETS IN ROOM 301, FOLWELL HALL, OLD CAMPUS

CHAIRMAN, HUGH H. YOUNG, BALTIMORE; SECRETARY, LOUIS E. SCHMIDT, CHICAGO

Tuesday, June 17—2 p. m.

SYMPOSIUM ON DISEASES OF KIDNEY AND URETER

A Study of the Normal Kidney, Its Pelvis and Ureter, with Stereopticon Views.
S. B. CHILDS and W. M. SPITZER, Denver.

Stereopticon Views of Pathologic Conditions of the Ureter and Kidney, with Methods of Examination and Their Bearing on Diagnosis. BRANSFORD LEWIS, St. Louis.

Renal Hematuria. W. F. BRAASCH, Rochester, Minn.

Experimental Kidney Surgery. O. S. FOWLER, Denver.

Untoward Results of Nephrolithotomy.
M. KROTOSZYNER, San Francisco.

The Use of Indigocarmin Intravenously.
HENRY DAWSON FURNISS, New York.

The Value of Various Functional Tests in the Differential Diagnosis of Renal Diseases.
JOHN T. GERAGHTY, Baltimore.

Wednesday, June 18—9 a. m.

Ureterovesical Cysts: An Endovesical Operative Procedure for Their Relief. J. R. CAULK, St. Louis.

The Formation of a New Ureter: Experimental Study.
D. N. EISENDRATH, Chicago.

Implantation of the Ureter into the Bowel, with Report of Two Cases. CARL BECK, Chicago.

SYMPOSIUM ON BLADDER TUMORS

Chairman's Address: The Present Status of the Diagnosis and Treatment of Tumors of the Bladder.
HUGH H. YOUNG, Baltimore.

The Diagnosis and Treatment of Papillary, More or Less Pedunculated Tumors of the Bladder.
HOWARD A. KELLY, Baltimore.

Chronic Cystitis in Women Not a Disease.
GEORGE G. SMITH, Boston.

Wednesday, June 18—2 p. m.

The Transverse Incision of the Skin and Abdominal Fascia as a Method of Approach in Suprapubic Operations on the Bladder and Prostate.
GRANVILLE MACGOWAN, Los Angeles.

Pathology of the Prostate, with Lantern-Slide Demonstration.
E. O. SMITH, Cincinnati.

Operative Treatment of the Vas.
EDWARD MARTIN, Philadelphia.

Radiographic Observations of Pus-Tubes in the Male.
WILLIAM T. BELFIELD, Chicago.

Surgery of the Seminal Vesicles.
J. BENTLEY SQUIER, New York.

Thursday, June 19—9 a. m.

SYMPOSIUM ON DISEASES OF THE TESTICLE

Undescended Testicle.
B. TENNEY and H. M. CHASE, Boston.

Operative Treatment of Undescended Testis.
ARTHUR DEAN BEVAN, Chicago.

Transplantation of the Testicle.
V. D. LESPINASSE, Chicago.

Gumma of the Testicle. JOHN H. CUNNINGHAM, JR., Boston.

The Probable Embryonic Origin of Tumors of the Testicle, with Report of Two Cases and Lantern-Slide Demonstration. A. C. STOKES, Omaha.

Primary Tuberculosis of the Genital Organs in Children.
O. LYONS, Denver.

The Operative Treatment of Genital Tuberculosis.
HUGH CABOT, Boston.

The Operation for Varicocele.
G. S. WHITESIDE, Portland, Ore.

Thursday, June 19—2 p. m.

The Pseudodiphtheria Organism in the Urinary Tract.
P. W. W. TOWNSEND, Rutland, Vt.

Gonorrhea: Pathology and Treatment.
CARL C. WARDEN, Los Angeles.

An Experimental Study of the Value of the Internal Use of Hexamethylenamin, with the Report of a Simple Clinical Method of Quantitative Estimation of Formaldehyd. FRANK HINMAN, Baltimore.

Indurations and Ossifications in the Shaft of the Penis.
GUSTAV KOLISCHER, Chicago.

The Diagnosis of the Primary Syphilitic Lesion.
R. GRADWOHL, St. Louis.

Clinical and Laboratory Salvarsan Relapses and Their Remedy. M. L. HEIDINGSFELD, Cincinnati.

Progress in the Treatment of Syphilis.
VICTOR VECKI, San Francisco.

SECTION ON HOSPITALS

MEETS IN PHARMACY BUILDING (OLD MILLARD HALL), OLD CAMPUS

OFFICERS OF SECTION

CHAIRMAN, H. B. HOWARD, BOSTON; SECRETARY, JOHN A. HORNSBY, CHICAGO

Tuesday, June 17—2 p. m.

Chairman's Address: H. B. HOWARD, Boston.

SYMPOSIUM ON HOSPITAL ARCHITECTURE

The Trend of European Hospital Architecture.
EDWARD F. STEVENS, Boston.

Architecture of the Great Charity Hospital.
RICHARD E. SCHMIDT, Chicago.

Architecture of the Modern Hospital for Contagious Diseases.
L. A. LAMOREAUX, Minneapolis.

Equipment of a Small Hospital. Making Over a Dwelling House. JOHN ALLAN HORNSBY, Chicago.

Wednesday, June 18—9 a. m.

Selection of Hospital Help under Civid Service Rules.
LEONHARD FELIX FULD, New York.

Administration of the Great Charity Hospital.
RUPERT NORTON, Baltimore.

Hospital and Asylum Work Shops: Some Possibilities of Handicapped Labor.
HERBERT J. HALL, Marblehead, Mass.

Possibilities in the Routine Practice of a Small Hospital.
HERBERT C. COLE, Bogalusa, La.

The Psychopathic Idea. E. E. SOUTHARD, Boston.

Report on the Present Status in the Campaign for the Standardization and Classification of Hospitals.
HENRY M. HURD, Baltimore.

Thursday, June 19—9 a. m.

SYMPOSIUM ON TRAINED NURSING

Efficiency Versus Routine in Hospital Nursing.
W. GILMAN THOMPSON, New York.

The Trained Nurse from the Standpoint of the Attending Surgeon. ARTHUR DEAN BEVAN, Chicago.

The Trained Nurse of the Future.
RICHARD O. BEARD, Minneapolis.

The Nursing Situation as It Is To-day.
JOSEPH B. HOWLAND, Boston.

SECTION ON ORTHOPEDIC SURGERY

CHAIRMAN, NEWTON M. SHAFFER, NEW YORK; SECRETARY, JOHN RIDLON, CHICAGO

Tuesday, June 17—2 p. m.

Chairman's Address: The Functions of the Knee-Joint, with Especial Reference to Mechanical Treatment of Acute and Chronic Lesions of the Articulations.
NEWTON M. SHAFFER, New York.

New Immigration as It Affects Orthopedic Surgery.
WALLACE BLANCHARD, Chicago.

Infected Joints from Diseased Tonsils and Teeth or Other Diseased Parts. J. W. COKENOWER, Des Moines, Iowa.

Charcot Joints as an Initial or Early Symptom of Tabes Dorsalis. HENRY LING TAYLOR, New York.

Causes of Error in the Diagnosis of Joint Disease.
WISNER R. TOWNSEND, New York.

Wednesday, June 18—9 a. m.

Injections in Treatment of Joint Tuberculosis.
LEONARD W. ELY, Denver.

Conservative Treatment of Hip-Joint Disease.
JAMES K. YOUNG, Philadelphia.

Results in Non-Surgical Treatment of Joint Tuberculosis.
H. WINNETT ORR, Lincoln, Neb.

Tuberculosis of the Hip: An Analysis of the Present Methods.
NATHAN ALLISON, St. Louis.

Pathologic Deviations in the Size of Bone.
S. L. MCCURDY, Pittsburgh.

Wednesday, June 18—2 p. m.

Hip-Fractures, Their Adequate Treatment.
F. J. COTTON, Boston.

Ivory Plates and Screws to Hold Fractures.
PAUL B. MAGNUSON, Chicago.

Surgery of Spine Transplants. HARRY B. THOMAS, Chicago.

The Fate of Transplanted Bone and of Detached Fragments in Comminuted Fractures. D. B. PHEMISTER, Chicago.

Bone-Graft Treatment for Pott's Disease, Ununited Fractures and Certain Deformities. FRED H. ALBEE, New York.

Results Obtained by Operating on the Spine for Pott's Disease.
JOHN JOSEPH NUTT, New York.

Thursday, June 19—9 a. m.

Hollow Foot. Pes Cavus. CHARLES A. PARKER, Chicago.

Anatomic Variations in the Human Foot and Their Importance in the Selection of Footwear.
CHARLES F. PAINTER, Boston.

Rôle of the Tendo Achillis in the Etiology of Weak Foot.
EMIL GEIST, Minneapolis.

Surgery of Infantile Paralysis. EDWARD W. RYERSON, Chicago.

Silk Tendons, Their Uses and Limitations.
HARRY M. SHERMAN, San Francisco.

Criticism of Lange's Silk Ligaments in Paralytic Surgery and Substitutes Therefor. EDWARD A. RICH, Tacoma, Wash.

Thursday, June 19—2 p. m.

The Whitman Operation for Talipes Calcaneus Paralyticus. Results in Eighteen Cases. JOHN P. LORD, Omaha.

Rational Treatment of Extreme Scoliosis.
E. A. RICH, Tacoma, Wash.

The Fixed Structural Type of Spinal Lateral Curvature.
R. O. MEISENBACH, Buffalo, N. Y.

Relation of Politics to the State Care of Crippled.
H. W. ORR, Lincoln, Neb.

Osteochondritis Dissecans: Three Cases.
JOHN RIDLON, Chicago.

Disarticulation at the Knee-Joint.
F. J. GAENSLEN, Milwaukee, Wis.

OUTLOOK OF THE SCIENTIFIC EXHIBIT FOR THE MINNEAPOLIS MEETING

It is a pleasure to announce that the outlook of the Scientific Exhibit for the coming meeting is most encouraging. The new Institute of Anatomy Building, chosen to house the exhibit, affords ample facilities for any scientific presentation which may be desired. The location is advantageous with reference to Registration Headquarters and the meeting-places of sections. The building is three stories high, well lighted and admirably arranged. It contains several lecture-rooms with lantern and like equipment, large rooms suited to the arrangement of allied groups and smaller rooms adapted to the demonstration of individual exhibits. These very attractive features will appeal with force to scientific workers who have often chafed under the unavoidable shortcomings of quarters offered. In fact, the facilities which will be offered this year are so good that there is danger it may spoil us for accepting gracefully the quarters which necessity may force on us at succeeding meetings.

For twelve years exhibitors have been so often besought to make systematic demonstrations of their exhibits that the exhortation has become trite. The sentiment in favor of and the practice of carrying on these demonstrations has grown very slowly, partly from failure to appreciate the opportunity given, and partly because of lack of facilities. Scientific workers are coming to realize that such demonstrations not only are instructive to the hundreds who see them, but also afford unusual opportunity for the scientific investigator to show to the medical world the fruits of his research.

In the realm of pathology, numerous research exhibits will be presented at the coming meeting. Noteworthy will be those relating to cancer and thyroid disease, which will be very fully illuminated by material from the very best sources, giving the latest on the subjects. Those interested in these topics or having pathologic material illustrating them should communicate with Dr. Louis B. Wilson, Rochester, Minn.

The great prominence which pathology has always occupied in the exhibit should not discourage but rather stimulate other fundamental branches to larger representation. One of the most striking exhibits shown a year ago was in the field of experimental physiology. Experimental pharmacology should certainly be able to contribute something of great interest. Anatomy has given assurance of creditable representation.

An exhibit of great practical interest will be that by the Committee on Anesthesia, showing recent advances in anesthesia. Exhibits of work in the physiology, pathology and pharmacology of the subject, and of apparatus and methods will be received. Commercial houses will not be permitted to give exhibits. Arrangements for clinical demonstrations will be made if possible. The purpose of the exhibit is to bring together men interested in anesthesia from all parts of the country, and to give them an opportunity to profit by one another's work. Those wishing to take part in this exhibit will address Dr. W. D. Gatch, Chairman of the Committee on Anesthesia, Room 605, Hume-Mansur Building, Indianapolis.

It is hoped to secure from year to year larger participation by those engaged in the work of clinical medicine and surgery. One of the greatest difficulties and most important phases in the future evolution of the Scientific Exhibit, is to bring the clinicians into closer touch with this work. The participants in Section programs should likewise give tangible and convincing demonstrations in the Scientific Exhibit. There is hope that some advance will be made at the coming session in this direction.

Radiography has recently attained such importance in diagnosis that it will of necessity occupy a prominent position at this session. It is proposed this year to confine the work largely to the recognition of pulmonary and gastro-intestinal conditions. The assembling of these exhibits will be in charge of Dr. R. D. Carmen of Rochester, Minn. Those who contemplate participating should make known to him in good season their intention, indicating the subject and the number and size of plates to be shown.

Public health and hospital exhibits will be limited to the newer things, such as devices for teaching the laity the lessons of hygiene, disease causation and prevention; motion pictures and automatic lantern exhibits.

As heretofore, certificates of honor will be awarded to a few of the especially meritorious exhibits. A gold medal will be given for the best research exhibit relating to any of the fundamental branches of medicine. This, however, does not make it obligatory for all research exhibits to be entered in competition.

Inquiries concerning the character and amount of space desired, apparatus or equipment, should be directed to Dr. Thomas G. Lee, Institute of Anatomy, University of Minnesota, Minneapolis. Exhibits should be shipped in ample time to arrive by Thursday, June 12. This will permit installation not later than Monday, and make certain that the exhibits will be in position for the inspection of the hundreds of visitors who will come on Tuesday morning.

Prospective exhibitors are requested to make known their intentions to the director, Dr. Frank B. Wynn, 311 Newton Claypool Building, Indianapolis, at the earliest possible date, giving the scope and character of what it is desired to show.

BUREAUS OF INFORMATION

Members of a committee of reception will be assigned to each railway station and will meet and direct arriving guests to their hotel destinations. Bureaus of information will be established at stations, hotels and meeting-places for consultation with visitors. A special committee of women physicians will take care of their professional associates, considerable numbers of whom will attend the meeting from abroad.

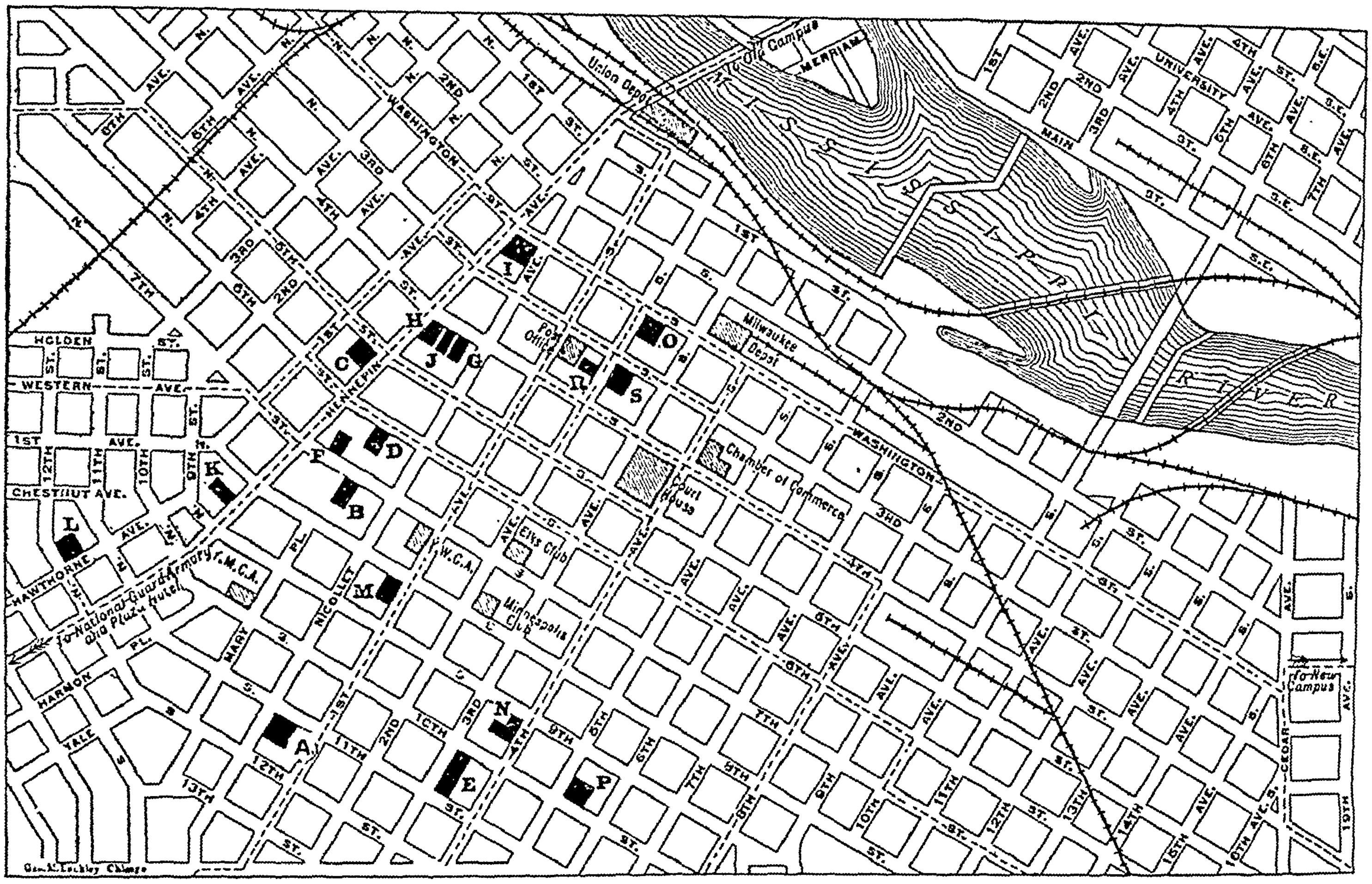


Fig 19.—The Business Center of Minneapolis.

Key to Minneapolis Map

A. Auditorium. Nicollet Ave. and S. 11th St.—Opening Meeting.

B. Radisson. S. 7th St., between Hennepin and Nicollet Ave.—General Headquarters.

C. West. Hennepin and N. 5th St.—Practice of Medicine, Pathology and Physiology, Dermatology, Hospitals, Nervous and Mental Diseases.

D. Dyckman. S. 6th St., between Hennepin and Nicollet Ave.—Ophthalmology.

E. Leamington. 3d Ave South, and 10th St.—Surgery.

F. Majestic. Hennepin Ave. and S. 7th St.—Pharmacology and Therapeutics, Diseases of Children.

G. Rogers. Nicollet Ave. and S. 4th St.—Preventive Medicine and Public Health.

H. Andrews. Hennepin and S. 4th St.—Obstetrics, Gynecology and Abdominal Surgery.

I. Nicollet. Washington and Hennepin Aves.—Stomatology

J. Vendome. South 4th St., between Hennepin and Nicollet Ave.—Genito-Urinary Diseases.

(Note: Plaza, 17th and Henepin Ave.—Laryngology, Otology and Rhinology. Southwest on Henepin Ave., beyond area shown in map. St. Paul Hotel, St. Paul—Orthopedic Surgery.)

[Note: A table of hotels and rates is on page 1505.]

Explanation of Street Car Service

There are two street car lines leading from the center of Minneapolis to the Campus. Cars moving south-east on South Washington Street, marked "Minneapolis and St. Paul" go to the New Campus, passing through the Campus on Washington Avenue, South-East. This line goes directly to St. Paul.

Cars moving north-east on Hennepin Avenue, marked "Como-Harriet" and "Oak and Harriet," pass the Union Station, crossing the Mississippi River and approaching the Old Campus on Fourth Street, South-East. The Old Campus may be entered either from Fourteenth Avenue, South-East, or Fifteenth Avenue, South-East. The Como-Harriet line terminates in St. Paul. From both the Old and New Campus the lines mentioned return to Minneapolis by the same route taken in going to the Campus.

From St. Paul, the Old Campus is approached by the Como-Harriet cars, and the New Campus by cars marked "St. Paul-Minneapolis."

THE MEETING-PLACES

The Campus of the University of Minnesota is divided by the tracks of the Northern Pacific Railroad into two parts. That north of the railroad is known as the Old Campus, the part south of the railroad tracks, as the New Campus.

The meeting places are listed in recognition of this division as follows:

OLD CAMPUS

1. Bureau of Registration, Bureau of Information, Post-office and Commercial Exhibit—Armory.
3. Surgery—Library, Chapel.
4. Ophthalmology—Law School, Room 106.
5. Laryngology, Otology and Rhinology—Shevlin Hall, Assembly Room.
7. Diseases of Children—Physics Building, Lecture Room.
9. Stomatology—College of Dentistry, Room 308

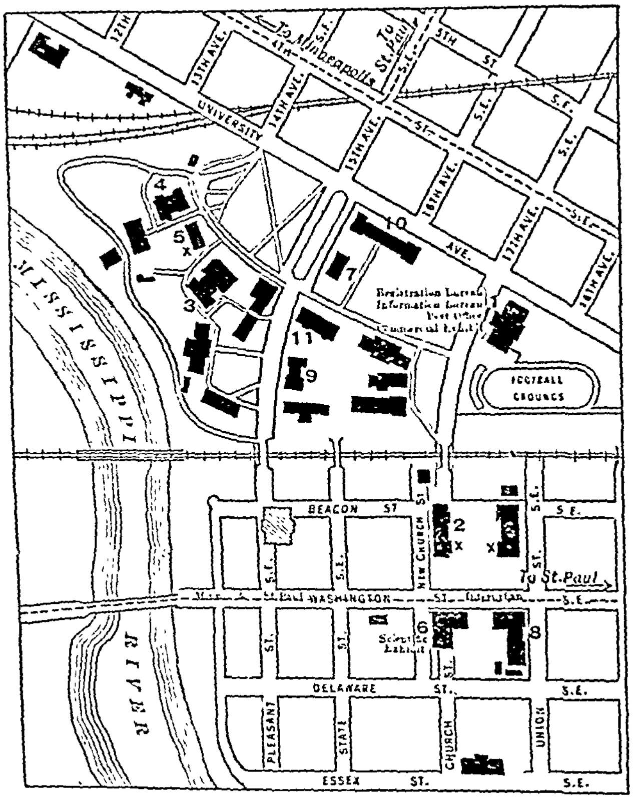


Fig 20.—The Scientific Meeting-Places.

10. Nervous and Mental Diseases—Folwell Hall, Room 311.
10. Dermatology—Folwell Hall, Room 214.
10. Genito-Urinary Diseases—Folwell Hall, Room 301.
11 Hospitals—Chemistry Building, Amphitheater.

NEW CAMPUS

2. House of Delegates—Engineering Building, Library.
2. Practice of Medicine—Engineering Building, Auditorium, Room 305.
6. Obstetrics, Gynecology and Abdominal Surgery—Institute of Anatomy, Amphitheater, Room 102.
8. Pharmacology and Therapeutics—Millard Hall, Room 214.
6. Pathology and Physiology—Institute of Anatomy, Room 104.
8 Preventive Medicine and Public Health—Millard Hall, Room 128.
2. Orthopedic Surgery—Engineering Building, Room 106.
6 Scientific Exhibit—Institute of Anatomy.

POST-OFFICES AND TELEPHONES

An *Association Post-Office* will be maintained at the Registration Department in the Armory on the *University Campus.* Guests are requested to order mail addressed to them in these italicized terms or to their hotels, as preferred.

Telephone booths will be provided at each meeting-place for the use of members.

THE SCIENTIFIC EXHIBIT

The Scientific Exhibit of the Association meeting will be displayed in the Institute of Anatomy on the new campus, where ample room, superior lighting and suitable equipment will enhance the values of the exhibits presented. An announcement by the director of the Scientific Exhibit appears on page 1455.

REGISTRATION

The Importance of Registering Early—A Few Instructions Given

The Bureau of Registration will be located on the Campus of the University of Minnesota in the University Armory. A committee of sixteen local physicians will assist members in registration.

A branch post-office will be opened and a Bureau of Information established in connection with the Registration Bureau.

Members must register in order to obtain the official badge and program. The badge will be necessary for admission to entertainments. All are urged to register as soon as they can name their hotels.

The Registration Department will be open from 8:30 a. m. to 5:30 p. m., on Monday, Tuesday, Wednesday and Thursday, June 16, 17, 18 and 19, and from 9 to 10 a. m. on Friday, June 20.

Attention is called to the following directions:

1. Each physician desiring to register will first fill out the registration card. One should write very plainly, or print, as the cards are given to the printer to use as "copy" for putting the names in the daily *Bulletin.*

2. *Each member who has paid his annual dues* in full will present his pocket card (which was sent him from the Chicago office) and his filled-out registration card at a window marked "Registration by Pocket Card."

3. A delay, in order that the records may be consulted, always inconveniences those members who have paid their dues but who fail to present their pocket cards, as suggested above. Be sure to bring your "pocket card."

4. *Members who have not paid* their dues will present registration card and make payment at a window marked "Cash."

5. *Each applicant for membership* will present his registration card at the window marked "New Members," with a certificate of membership in his state society. Prospective members, however, will save delay and annoyance by sending in *their applications before the session.* All such applications should be mailed to the American Medical Association, 535 Dearborn Avenue, Chicago, so as to arrive not later than June 5.

6. Each member on registering will receive a badge, a copy of the Official Program containing a full announcement of the scientific proceedings, invitations to the social functions, and such other notices as may be of interest.

STATE SECRETARIES' MEETING

The Association of State Secretaries and Editors will hold its seventh annual meeting at Minneapolis at 7 o'clock in the evening of June 16. A further announcement will be made by its secretary.

PUBLIC HEALTH SUNDAY

The week of the Association meeting in Minneapolis will be opened with Public Health Sunday, June 15. The Ministers'

Associations, the Bishop of the Diocese and the Episcopal clergy, and the individual churches of the city, have almost unanimously joined this movement and will devote one or more of the services of the day to the discussion of health topics of large public interest. The Council on Health and Public Instruction will provide for each pulpit which extends an invitation a trained public speaker, who will assist the pastor in the presentation of a chosen theme. The occasion will be a notable one and will awaken public interest, not only in the meeting of the Association, but also in the more permanently important questions of personal hygiene and communal sanitation.

NOONDAY LUNCHEONS

At the noon hours of Tuesday, Wednesday and Thursday, June 17, 18 and 19, a complimentary buffet luncheon will be served at several points on the University Campus, for attending physicians and attendants on exhibits.

These luncheons will be had in Shevlin Hall, on the old Campus, and at the main engineering building and the experimental engineering laboratory on the new Campus. (X on University Campus map.) Ample provision will be made for the visiting members of the Association.

THE PRESIDENT'S RECEPTION

The President's reception on Wednesday evening, June 18, will be given in the National Guard Armory, on the Parade, opposite Loring Park. Dancing will follow the reception proper, and music will be furnished by the First Regiment Band. The Armory annex will be transformed into an indoor garden, which will serve as an attractive lounging-place for guests. A number of refreshment tables will be scattered about the annex garden and the Minneapolis Symphony Orchestra will render a musical program in this attractive retreat.

SOCIAL ENTERTAINMENTS

Minneapolis is a city which is fair to behold alike in its commercial center, its residence districts, its intra-urban parks and parkways and its beautiful suburban surroundings. Automobile drives will be planned for the intervals between the meetings, which will give the city's guests the opportunity to appreciate these beauties.

While the doctors deliberate, the Ladies' Committee on Entertainment will be busy with the wives and daughters of visiting members.

Ladies, on reaching the city, are urged to make their official registration, through the medical members, at the University Armory and then to appear at the Ladies' Headquarters at the Radisson Hotel and register there. This will enable them to secure official programs of entertainment, to select the opportunities of excursion they prefer and to obtain tickets for selected trips.

Ladies of the committee will always be in attendance at headquarters Radisson Hotel to give any information desired in the way of addresses, routes of transit, railway transportation, hours of entertainment, etc. Visitors who wish to shop will receive directions or will be piloted to stores they care to visit.

Afternoon tea will be served at the Ladies' Headquarters every day from 3 to 5 o'clock. A rest-room will be always available.

Tuesday afternoon, June 17, Mrs. W. A. Jones and Mrs. Horace Lowry will extend invitations to musicales to be given at their homes. Wednesday, June 18, the women guests will be taken for a day's outing to Lake Minnetonka, under the guidance of Mrs. A. W. Abbott. The excursion will be made by trolley and will include luncheon at the Lafayette Club, a tour of the lake if the weather is favorable, and a return by special train in the afternoon. Thursday, June 19, will be spent by the women visitors at the Minnekahda Club, under the leadership of Mrs. Arthur A. Law. In the morning at 11 o'clock, a bridge tournament, a putting contest and a tennis tournament will be arranged. From 12:30 to 2 luncheon will be had at the club. Further matches will be concluded in the afternoon and prizes will be awarded. At 4:30, tea will be served, to which the men of the Association will also be invited. On both Thursday and Friday mornings, June 19 and 20, automobile drives will be arranged for the women, under the directorship of Mrs. A. S. Hamilton. Preference will be given, on Thursday, to those visitors who cannot remain in the city on the succeeding day, and who may not wish to spend the entire day at the Minnekahda Club. On the afternoon of Friday, June 20, Mrs. Willis Walker will give a tea to the visiting women in the Walker Art Galleries.

These more formal plans will interest the majority of the visitors; but for any groups of women who may be interested, shorter trips will be arranged, with committee guides, to the public or private hospitals, to the public library, the art galleries, the flour mills, the public baths, the filtration plant, the city playgrounds, the charitable institutions, the state capitol at St. Paul, etc.

ENTERTAINMENT TENDERED BY THE PROFESSION OF MEDICINE IN ST. PAUL

Thursday evening, June 19, at 8 o'clock, the members of the Association and their ladies are cordially invited to be the guests of the physicians of St. Paul.

An entertainment will be given and refreshments will be served in St. Paul's great Auditorium, which is amply large enough to accommodate all who may wish to come. For visitors staying in St. Paul, it will be but a few steps to the Auditorium. Automobiles will be provided for those who are in attendance on meetings at the University, and the several interurban trolley lines furnish frequent service to the Auditorium for any who prefer to come in that way. No pains will be spared to make the evening one of delight.

ALUMNI REUNIONS

Alumni Associations that may desire to hold reunions during the meetings of the American Medical Association are requested to communicate, through their secretaries, with Dr. E. K. Green, Secretary of the Committee on Alumni Meetings, Reid Corner, Minneapolis, the date desired for such meetings and any suggestions of entertainments they may wish to provide should be stated. Places of meeting or entertainment will be selected for them on request.

THE SECTION BANQUETS

The customary banquets of the sections of the Association will occur on Tuesday evening, June 17, at 7:30 o'clock (unless otherwise announced). Tickets are obtainable from the secretaries of the respective sections.

Arrangements have been completed for the following entertainments:

The Section on Medicine at Donaldson's Café.

The Section on Surgery at the West Hotel.

The Section on Nervous and Mental Diseases at the Interlachen Club.

The Section on Obstetrics, Gynecology and Abdominal Surgery at the Radisson Hotel.

The Section on Diseases of Children at the Minneapolis Club, at 7 p. m.

The Sections on Ophthalmology, and on Laryngology, Rhinology and Otology at the Dyckman Hotel.

The Section on Orthopedics, St. Paul (place unannounced).

BANQUET OF WOMEN PHYSICIANS

The Annual Banquet of the Women Physicians of the Association will be given at the Hotel Leamington, on Third Avenue and Tenth Street South, Tuesday evening, June 17, at 7:30 o'clock. Cards for the banquet will be obtainable at the Registration Bureau.

The Committee for Public Health Education Among Women will meet at 7:30 p. m., Monday, June 16, in Room 128, Millard Hall.

PROGRAM OF CLINICS

The Committee on Clinics has arranged for a public lecture by an eminent member of the profession from abroad, Monday afternoon, June 16, at 2 o'clock, in the University Chapel. Also on June 16, at 8 p. m. in the University Chapel, Dr. Theodore H. Weisenburg of Philadelphia will give a series of moving pictures illustrating various phases of nervous diseases. Arrangements, as yet incomplete, will be made for a Friday afternoon and evening program. Saturday morning, June 21, operative clinics will be conducted by local surgeons in all of the leading hospitals in Minneapolis.

LOCAL COMMITTEE ON ARRANGEMENTS

Frank C. Todd, Chairman.
Jennings C. Litzenberg, Sec. Charles G. Weston, Treas.

COMMITTEE ON FINANCE
George Douglas Head, Chairman. Earle R. Hare, Secretary.

COMMITTEE ON CLINICS
James E. Moore, Chairman. A. C. Strachauer, Secretary

COMMITTEE ON ENTERTAINMENT
Thomas S. Roberts, Chairman. J. Fowler Avery, Secretary.

COMMITTEE ON SECTION ENTERTAINMENTS
Archa E. Wilcox, Chairman. R. T. LaVake, Secretary.

COMMITTEE ON OUTSIDE EXCURSIONS
H. H. Kimball, Chairman. John H. Morse, Secretary

COMMITTEE ON SCIENTIFIC EXHIBITS
Thomas G. Lee, Chairman. Fred L. Adair, Secretary

COMMITTEE ON AUTOMOBILE DRIVES
E. C. Robitshek, Chairman. Charles E. Dutton, Secretary.

COMMITTEE ON REGISTRATION
Arthur T. Mann, Chairman. A. S. Hamilton, Secretary

COMMITTEE ON HOTELS
S. Marx White, Chairman. E. J. Huenekens, Secretary

COMMITTEE ON HALLS AND MEETING PLACES
H. E. Robertson, Chairman. E. T. Bell, Secretary

COMMITTEE ON POSTOFFICES AND TELEPHONES
C. A. Donaldson, Chairman. C. O. Maland, Secretary.

COMMITTEE ON ALUMNI MEETINGS
Richard J. Hill, Chairman. E. K. Green, Secretary.

COMMITTEE ON PRINTING
J. Grosvenor Cross, Chairman. E. S. Strout, Secretary.

COMMITTEE ON NON-AFFILIATED ORGANIZATIONS
Horace Newhart, Chairman. W. H. Condit, Secretary.

COMMITTEE ON PRESS AND PUBLICITY
Richard Olding Beard, Chairman. S. E. Kerrick, Secretary

COMMITTEE ON PROGRAM
John W. Bell, Chairman. E. J. Huenekens, Secretary

COMMITTEE ON WOMEN PHYSICIANS
Eleanor J. Hill, Chairman. Laura Lane, Secretary

COMMITTEE ON RECEPTION AT RAILROADS
F. A. Knights, Chairman. M. J. Lynch, Secretary

COMMITTEE ON COMMERCIAL EXHIBITS
Charles H. Bradley, Chairman. A. E. Hedback, Secretary

COMMITTEE ON GENERAL HOSPITALITY, INFORMATION AND ATTENDANCE
Arthur E. Benjamin, Chairman. C. H. Keene, Secretary

COMMITTEE ON LOCAL TRANSPORTATION
A. H. Parks, Chairman. E. A. Moren, Secretary

COMMITTEE ON PRESIDENT'S RECEPTION
Arthur A. Law, Chairman. Henry Wireman Cook, Secretary.

CONTINUED ON PAGE 1504

Special Article

BACTERIAL VACCINE THERAPY: ITS INDICATIONS AND LIMITATIONS*

(Continued from page 1361)

VACCINE THERAPY AND SERUM THERAPY DEFINED

That the popularity of clinical vaccine therapy has far exceeded its scientific aspects is clearly shown by the still prevailing uncertainty which exists in the minds of many relative to the exact nature of serum and vaccine therapy. In the lay mind all efforts in the direction of biologic therapy are classed as serum therapy, and even among physicians it is common to find this confusion. Except for the extracts used in organotherapy, it is not unusual to find both laymen and physicians designating all biologic products as "serums" and all biologic therapy as "serum therapy."

As far as practical medicine is concerned serum therapy was the predecessor of vaccine therapy by about fifteen years. Serum therapy is a method of producing passive immunity for either protective or curative purposes by the introduction of the blood-serum of another animal which has been immunized by injecting bacterial toxins or the bacteria themselves. Sometimes both toxins and bacteria are used. A curative or protective serum, then, is actually the serum of the blood of an immunized animal. It contains no bacteria, living or killed, or any immediate products of bacterial growth. It conveys the antibodies resulting from the contest between the animal furnishing it, and the bacteria or bacterial products (antigens) used to immunize that animal.

Vaccine therapy is a method of producing an active immunity by the injection of bacteria or their products directly into the patient. It gives immunity at first hand, as distinguished from serum therapy, which gives it at second hand. The active agent in vaccine therapy is the *bacterial vaccine*, which is actually a suspension of bacteria in water or in normal salt solution. All the bacterial vaccines in general use consist of bacteria killed by heat, and almost without exception a disinfectant is added to the suspension of killed bacteria to serve as a preservative. Bacterial vaccines contain no blood-serum; in fact, the standard vaccines contain no animal substance whatever. Accordingly, it will be seen that they differ from the therapeutic serums in the most substantial particulars. They are thin watery mixtures, more or less cloudy, according to the number of included killed bacteria, which usually can readily be identified by microscopic examination, in contrast to the thicker, sticky, generally clear serum, with its "horsey" odor, in which no bacteria are contained. In fact, the differences are so obvious, and the properties of these two classes of biologic remedies are so much at variance, that it seems a reproach to the general intelligence of our profession that physicians should still persist in calling all therapeutic immunizing agents "serums."

PREPARATION OF BACTERIAL VACCINES

While a physician who uses bacterial vaccines need not make them himself, he should at least know how they are prepared.

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* This series of articles has been prepared under the direction of a committee appointed for the purpose by the Council on Pharmacy and Chemistry of the American Medical Association. The committee consists of Drs. Ludvig Hektoen, Chicago; David L. Edsall, Boston; John Howland, Baltimore; Reid Hunt, Washington, D. C., and Albert P. Ohlmacher, Detroit.

Pure Cultures.—With few exceptions, the starting-point of a bacterial vaccine is a pure culture of the particular species of bacterium whose vaccine is desired. This means that one who prepares a vaccine should be able to identify the various species of bacteria, and further that he should be able to assure himself of the purity of his culture; that is, of the absence of other species of bacteria aside from the one desired.

When the bacterial species is a common and well-known one, and especially when this species occurs in pure culture in the pus or other diseased material, the vaccine maker has a comparatively easy task. For instance, pus from an ordinary boil, as a rule, yields *Staphylococcus aureus* in unmixed culture, and the germs grow readily on ordinary culture mediums like agar; but the pus from a specific urethritis yields the gonococcus much more grudgingly, both because the gonococcus requires a special medium (serum or ascitic agar), and because it is almost always mixed in the pus with other bacteria: the other species usually multiply more rapidly and tend to hinder the growth of the gonococcus. In the case of influenza and whooping-cough, the isolation of the influenza bacillus of Pfeiffer, or of the pertussis bacillus of Bordet-Gengou from the muco purulent secretion of the respiratory passages is a task which often overtaxes the bacteriologist, for these species grow scantily, even on blood-agar, and are intimately mixed with a variety of other bacteria.

Separation of Colonies.—In order to obtain a pure culture from pus or other substance containing several bacteria, it is necessary to spread the material or a dilution of it over the surface of some solid medium, like agar, so thinly that the individual bacteria will grow in separate colonies. These colonies have characteristic modes of growth by which they can be recognized, or they may be identified by a microscopic examination. The members of a colony are with rare exceptions all individuals of the same species. Colonies of the desired species are transferred to a suitable medium in which they produce an abundant growth of a pure culture. The purity of the culture can be determined at any time by planting it on a suitable solid medium and observing whether bacteria of any other species than that desired grow on the medium.

BACTERIAL SUSPENSION

Once the problem of a pure culture has been solved, the next step in preparing a vaccine is to secure a sufficient growth, or in other words, to have the bacteria multiply to the requisite degree to furnish the basis of a vaccine. Solid culture-mediums are almost exclusively used for growing bacteria for vaccines. The rate of growth depends on the kind of medium and on the particular growth-rate of a given species. Staphylococci and colon and typhoid bacilli grow rapidly on ordinary mediums; but streptococci, pneumococci, gonococci and meningococci grow slowly or not at all on ordinary nutrient agar, and require special mediums like solidified serum or serum-agar (Loeffler's medium) for the production of a sufficient culture. Once having attained the optimum of its growth, usually after twenty-four or forty-eight hours in the incubator at blood heat, a culture should be converted into vaccine. With sterile saline solution as a menstruum, the culture is washed or scraped from the surface of its medium, and this rough emulsion or suspension is transferred to a proper receptacle and subjected to shaking sufficient to break up bacterial masses and to make a smooth mixture. Sometimes it is necessary to filter the suspension through cotton or coarse filter-paper, or to centrifuge it to precipitate or get rid of the coarser masses of bacteria. A uniform suspension having been made, the mixture of bacteria is ready for the further step—sterilization.

Sterilizing the Vaccine.—Heating the bacterial suspension in a water-bath to a temperature of 60 C. (140 F.), maintained from fifteen minutes to one hour, generally suffices to kill the bacteria. If the receptacle of the suspension is a bulb hermetically sealed, it is bodily introduced into the water; but if a flask or vial is used as container to which the final suspension is transferred, care must be exercised to avoid *contamination of its* sides, neck or stopper with bacteria which, not being immersed, do not receive sufficient heat to sterilize them. To test the sterility of the suspension, a portion of it is transplanted to proper mediums to see if any growth will occur. If no growth occurs the vaccine is sterile.

Objection to Heat-Killed Vaccines.—Sterilization by heat was adopted by Wright in the preparation of vaccines. Objections have been raised on the ground that the protoplasmic changes which attend the thermal death-point of bacteria are accompanied with chemical alterations of such character as to minimize or destroy the original immunizing value of the bacteria. To escape the supposed faults in heat-killed vaccines, some authorities have advocated *chemical sterilization* by the agency of phenol or cresol solutions. There is not sufficient evidence, however, to justify the general adoption of this method. It is more dangerous since it places dependence on only one means of devitalizing. Moreover, the vaccines are as a rule more irritating in their local reactions, and no more effective therapeutically.

STANDARDIZING

The method devised by Wright for setting a standard for bacterial vaccines, the actual counting of the bacteria, has been generally adopted.

The enumeration of the bacteria in a bacterial suspension is performed by comparing the number of bacteria with the red cell count of human blood in which, of course, the number per unit volume (cubic millimeter, for instance) is established within limits sufficiently accurate for practical purposes. The number of bacteria per cubic centimeter is estimated by mixing equal volumes of defibrinated blood and of bacterial suspension, diluting about five times, and smearing on a slide. The smear is stained with a Romanowski stain, and the number of red corpuscles and also that of the bacteria in the same volume of mixture are computed.

Since the number of corpuscles in human blood is about 5 million per cubic millimeter, by a comparison of the number of the bacteria with the number of corpuscles in the average of a number of fields examined, the number of bacteria per cubic millimeter in the original mixture can readily be estimated. From this the number per cubic centimeter can easily be calculated. The original suspension can then be diluted so that the vaccine ready for use will contain 1,000 million or 100 million per cubic centimeter, or whatever number is selected as the standard.

In application this method is little if at all more difficult than the performance of an ordinary blood-count for red cells or leukocytes. Any physician who can make a blood-count can standardize a bacterial suspension.

Instead of standardizing vaccines by number of bacteria per cubic centimeter, it has been proposed to use the density of the liquid or the weight of the dried bacterial residue as standards. These, however, have not yet come into use.

Dilution of Vaccine.—A bacterial suspension, properly sterilized and standardized, must be diluted to a point at which a certain dose of bacteria is contained in a convenient quantity of fluid. The original suspensions, particularly of rapidly growing species, are too concentrated for convenience, although most manufacturers keep their stock in these concentrated suspensions. Commercial vaccines as now offered for sale are generally diluted so that a single average dose is present in a syringe or other container. But when a physician prepares his own vaccines it is desirable to carry the dilution only to a degree sufficient to give in a cubic centimeter a maximum dose of that particular bacterial species, fractions of which can be taken for reduced dosage. A concentrated suspension from a single culture-tube of slanted agar amounting to 5 or 10 c.c. in original bulk, should be diluted to 25, 50 or 100 c.c., depending on the number of bacteria contained in the original suspension, and the maximum number desired in a cubic centimeter of the finished vaccine. The diluent commonly employed is sterilized saline solution.

Chemical Preservative.—Almost without exception, workers with vaccines of killed bacteria add some germicide to guard against subsequent contamination of the diluted product or the concentrated suspension, as the case may be. Liquor cresolis compositus, originally advised by Wright, has been generally abandoned, because the soapy content of this mixture causes objectionable precipitation. It also seems that the potency of a vaccine is lost readily in the presence of this germicide. In the United States most private workers and most manufacturers have at present adopted cresol as the preservative of choice, adding it to the diluting saline solution in such a proportion as to yield from 0.2 to 0.4 per cent.

Objection to the addition of a germicide has been raised on the ground that its presence in a vaccine tends to hasten chemical changes in the contained bacteria, thereby interfering with their best immunizing properties. At least one company which recently entered the field of commercial vaccines has made a point of the fact that its vaccines are diluted solely with sterile saline solution and marketed in this untreated condition. It is highly probable that this objection to a preservative like cresol is fanciful; and there are good reasons for its retention, as it gives added security against contamination during manufacture, during storage or during the administration of a bacterial vaccine. The same objection has repeatedly been urged against the use of these germicides in therapeutic serums; but prolonged experience has conclusively shown that no appreciable loss of therapeutic potency occurs in a serum thus treated.

(To be continued)

Necessity of Reporting Cases of Disease.—The health department in a community is able to control disease in proportion to the completeness and exactness of its knowledge of the occurrence of cases. With full information of existing cases it can work effectively; it can direct its efforts at prophylaxis against the disease itself; it can work in the light of knowledge of the situation. Without such information its attempts at control must be of a general nature, sometimes effective, more often not, for it is working in the darkness of ignorance of the location and prevalence of that which it is attempting to control—as well hunt birds by shooting into every green bush, a practice that would cost much in ammunition and yield poor results.—*Ohio State Board of Health Bulletin.*

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

CHOLERA AGGLUTINATING SERUM.

H. K. Mulford Co., Philadelphia.

Cholera Agglutinating Serum.—The dried-blood serum of horses which has been injected with killed cultures of the cholera vibrio. It is intended for the diagnosis of cholera by the agglutination of suspected cholera vibrios.

For use the serum is dissolved in salt solution so as to make a definite dilution, commonly 1 to 100. A drop of this is mixed with the suspected culture and the mixture is observed under the microscope for evidences of agglutination.

BACILLUS DIPHTHERIÆ VACCINE.—This is claimed to be useful for the treatment of diphtheria carriers and for immunization against diphtheria.

H. K. Mulford Co., Philadelphia.

Diphtheria Bacterin.—It consists of killed diphtheria bacilli suspended in normal salt solution, properly standardized and prepared for administration. It is marketed in 4 glass syringes; Syringe A containing 100 million killed bacteria; B. 200 million; C. 400 million and D. 800 million. Also in packages of 6 one-C.c. ampules, each C.c. containing 100 million killed bacteria. Also in 20 C.c. vials, each C.c. containing 100 million killed bacteria.

BACILLUS COLI VACCINE (See N. N. R., 1913, p. 221).

Lederle Antitoxin Laboratories, New York City. (Schieffelin and Co., New York.)

Coli Vaccine (Polyvalent).—Marketed in 1 Cc. vials and in syringes containing respectively 50 million, 100 million, 200 million and 400 million killed bacteria.

GONOCOCCUS VACCINE (See N. N. R., 1913, p. 223).

Lederle Antitoxin Laboratories, New York City. (Schieffelin and Co., New York.)

Gonococcus Vaccine (Polyvalent).—Marketed in 1 Cc. vials and in syringes containing respectively 50 million, 100 million, 200 million and 400 million killed gonococci.

PNEUMOCOCCUS VACCINE (See N. N. R., 1913, p. 224).

Lederle Antitoxin Laboratories, New York City. (Schieffelin and Co., New York.)

Pneumococcus Vaccine (Polyvalent).—Marketed in vials and in syringes containing respectively 50 million, 100 million, 200 million and 400 million killed *pneumococci*

STAPHYLOCOCCUS VACCINES (See N. N. R., 1913, p. 225).

Lederle Antitoxin Laboratories, New York City. (Schieffelin and Co., New York.)

Staphylococcus Vaccine (Polyvalent).—Marketed in vials and in syringes containing respectively 250 million, 500 million, 1 billion and 2 billion killed staphylococci.

Staphylococcus Albus Vaccine (Polyvalent).—Marketed in vials and in syringes containing respectively 250 million, 500 million, 1 billion and 2 billion killed bacteria.

Staphylococcus Aureus Vaccine (Polyvalent).—Marketed in vials and in syringes containing respectively 250 million, 500 million, 1 billion and 2 billion killed bacteria.

H. K. Mulford Co., Philadelphia.

Staphylococcic Cultures.—These cultures consist of colonies of active living staphylococcus aureus. They are intended for the elimination of diphtheria bacilli from the throats of diphtheria carriers. These cultures are marketed in sealed glass tubes, six tubes to the package, each tube containing an applicator in the form of a swab charged with a culture of active staphylococcus aureus.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION

535 DEARBORN AVENUE . . . CHICAGO, ILL.

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SATURDAY, MAY 10, 1913

EFFICIENT PASTEURIZATION AND THE BACTERIA WHICH MAY SURVIVE IT

It has been demonstrated both experimentally and commercially that practically no pathogenic bacteria survive a temperature of from 60 to 65 C. (140 to 149 F.) continued for thirty minutes or longer. Yet the most efficient pasteurization will not destroy all the organisms in milk, and the growth of the survivors markedly affects the quality of the milk. Ayres and Johnson[1] have recently published the results of an extended study of the effects on milk of the organisms which survive pasteurization. Data were collected from 219 pasteurizing plants in cities of over 25,000 as to the methods and temperatures employed. It was found that seventy-five plants were using the holding process with an average temperature of 62.8 C. (145 F.), and 144 plants were using the "flash" process, heating the milk to an average temperature of 71 C. (159.8 F.) and quickly cooling it again. In the plants using the holding process the temperatures ranged from 54.4 to 76.7 C. (130 to 170 F.), and in the "flash" process from 60 to 82.2 C. (140 to 180 F.). This lack of uniformity emphasizes the need for enforced standard regulations among all pasteurizing plants.

The regulations of some boards of health requiring a 99 per cent. reduction of the bacterial count in commercial pasteurization are of doubtful value. It is easy to secure such a percentage reduction in milk having a high bacterial count, while it is often impossible with a good grade of milk, for instance, milk having a bacterial count of 100,000 or less. A sample of milk containing 16,800,000 bacteria per cubic centimeter heated for thirty minutes at a temperature of 62.8 C. (145 F.) under conditions which admitted of no reinfection showed a count of 85,000, a reduction of 99.5 per cent.; while a sample having a count of 119,000 under the same conditions gave a count of 20,800 after heating, or a reduction of only 82.5 per cent. This sample would have failed to meet a required percentage reduction, yet obviously it was far superior to the first sample both before and after pasteurization. The percentage reduction is no criterion of the quality of the milk or the efficiency of the process.

A sudden cooling of the milk following the heating is regarded by many as essential to the efficiency of the process, and it is thought to aid in the destruction of the bacteria. Bacterial counts of the milk both before and after sudden cooling following the heating process showed practically no difference in the number of live organisms. Immediate cooling of the milk is desirable not because it kills any organisms, but because it hinders the multiplication of those which have survived the heating process.

A study of the organisms which survive pasteurization showed that those of the acid-forming group, which produce the normal souring of milk, predominated when a temperature below 76.6 C. (170 F.) was used in the process. When a higher temperature was employed, the acid-formers were largely destroyed and the surviving bacteria were of the peptonizing or protein-splitting group. Some gas-forming organisms which gave the preliminary tests for the organisms of the colon group were often found. These, unless identified carefully, would lead to the conclusion either that the process was not efficient or that reinfection had occurred after pasteurization.

It is evident that in all commercial pasteurizing plants definite regulations governing the process should be enforced; that these should be uniform throughout the country; that the tests for efficiency should be based not on a percentage reduction of the number of bacteria, but on the actual bacterial content of the milk, and that the effects produced by the growth of the surviving bacteria on the milk should be given consideration in formulating the regulations.

NEW OBSERVATIONS ON THE DEVELOPMENT OF THE RASH IN MEASLES

Skin rashes, their cause and the reason of their frequently definite order of distribution over the surface in contagious diseases have long been the subject of much thought and investigation. A valuable study of the complete evolution of the rash in measles has recently been published by von Pirquet,[1] and it may be of interest to call further attention to the principal results of his observations because of the deductions drawn in regard to the nature of the eruption.

The first lesions usually consist of a few scattered papules, most frequently just behind the ears, but sometimes in the middle of the upper portion of the back, or about the mouth and nose, on the cheeks, or in front of the ears and on the forehead, but rarely on the thorax or abdomen. New regions are invaded in this order: At the end of the first day the rash frequently covers the scalp and the back down to the iliac crests, and the upper and middle portions of the face; sparsely scattered papules are sometimes found on the chest, the abdomen, the shoulders and the inner sides of the upper arms; solitary lesions occasionally occur on other parts of the arms, the thighs, the buttocks and the anterior surfaces of the lower legs; the knees and elbows are not involved. At the end of forty-eight hours the rash in many cases has reached its height; in general, the head, the trunk, the shoulders and the anterior portions of the upper arms and thighs are markedly affected; less constant and intense is the rash on the dorsal surface of the upper arms, the forearms and the dorsal surfaces of the thighs; scattered lesions are found in the popliteal spaces, over the lower legs, the hands and sometimes the feet; the elbows remain free. During the fourth and fifth days the rash invariably is completely developed. Not infrequently the skin of the buttocks, elbows, feet and hands escapes.

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[1] Ayres and Johnson: Bureau of Animal Industry, 1913, Bulletin 161.

[1] Von Pirquet, C.: Das Bild der Masern auf der äusseren Haut, Ztschr. f. Kinderh., 1913, vi, 1; abstr. in The Journal, April 26, p. 1337.

The rash spreads then from one portion of the skin to others in a fairly definite order, in general involving first the head and back, next the entire trunk and finally the extremities. The individual spots begin as minute, discrete elevations, surrounded by a narrow anemic zone, which enlarge in all directions and tend to become confluent. From the first sign of the papule to the complete passing of its hyperemia three days usually elapse. It is characteristic of the lesions appearing last (buttocks, feet, etc.) to disappear more rapidly. The rash develops more rapidly in summer than in winter; in younger children the skin is more often incompletely covered than in older children. The skin lesions in members of the same family frequently run a similar course. Children infected from the same source of contagium also present rashes of a similar type.

Local irritation has a tendency to hasten the breaking out over the irritated areas, and areas of chronic hyperemia also develop the rash earlier. Patients afflicted with urticaria or erythema multiforme develop the measles earlier in the places so diseased, the rash appearing subsequently on the head and trunk. Thus, the normal order of development may be reversed. Cutaneous irritants and local stasis applied not less than twenty-four hours before the rash sometimes influence its subsequent development, stasis producing a delay; but later the development is more profuse, while a mustard plaster placed where lesions otherwise are sparse produces a confluent exanthematous patch.

From these results von Pirquet concludes that the order of development and spreading of the rash depends on the vascularity of the areas involved, as the rash appears earlier and is more intense over areas having an abundant blood-supply and lying in close proximity to the larger blood-vessels. On this basis a hypothesis is formulated to the effect that the rash is the result of a "reaction with the measles organism or virus which takes place in the capillaries of the skin." This reaction, it is further assumed, may be at least in part one of agglutination of the measles organism by the action of its antibodies; these antibodies, being present in the blood, are of necessity more abundant in those portions of the skin possessed of better blood-supply, such areas being, so to speak, saturated with them. Indeed, this saturation may be so great that most of the virus is removed by a process of agglutination from the blood at these places, and only a few organisms are left to be taken up by the more distant or poorly vascularized areas. While the final test of the correctness of von Pirquet's conclusions must await the discovery of the causative agent of measles, the explanation advanced appears to be in harmony with the facts observed as well as with the modern view that many of the changes in structure and function in infectious diseases are allergic phenomena; that is, due to the products of the reactions between the antisubstances in the patient's body and the proteins of the invading microbes. Viewed in this light the rash in measles appears more intelligible to us, and von Pirquet's work illustrates again the value and interest of what one may call simple but careful and thorough clinical observations when guided and interpreted in the light of a reasonable and fruitful hypothesis.

COMPENSATION FOR OCCUPATIONAL DISEASES

The present federal law known as the workmen's compensation act of May 30, 1908, is the pioneer compensation law in this country. Fifteen states during the past two years have recognized the wisdom and justice of the compensation principle in dealing with the victims of industrial accidents and have enacted laws which are much more liberal and better serve the purpose than the original law enacted by Congress. The federal law applies to only about 350,000 civilian employees, and grants no relief for incapacity lasting less than fifteen days. It makes no provision for medical treatment, and one year's wage is the maximum benefit even for total blindness or death.

A bill has been introduced into Congress to extend the compensation act to the injuries caused by occupational diseases as distinguished from injuries by accident. The inadequacy of the present compensation act has been recognized, and the solicitor of the Department of Commerce and Labor in his last report recommended that a new law be enacted embodying compensation for occupational diseases as well as for accidents. The necessity for this law is shown by John B. Andrews,[1] secretary of the American Association for Labor Legislation, by examples taken from the government records; gross injustice is worked to some government employees who are incapacitated by conditions surrounding their work, under the seemingly somewhat inconsistent interpretations of the compensation act in a number of cases that appear to be similar. Compensation is granted in some instances, but in others equally or more deserving, it would seem, relief is denied. For instance, in a case of lead-poisoning in a workman engaged in scaling paint from the inside of battle-ships, to which we have heretofore referred,[2] compensation was refused on the ground that the injury complained of was not accidental but was a necessary or accompanying incident of the work. In another case a workman was employed in placing floor-plates in the engine-room of a warship while red and white lead was being applied in the bilges of the vessel; the fumes caused toxic amblyopia in the man laying the floor-plates, and the injury was ascribed by the United States solicitor to accident, because the claimant's particular work had nothing to do with the painting operations going on about him. Other examples are given by Andrews in which the refusal of relief hinged on differences quite as narrow, due, it is said, to the unfortunate legislative restrictions.

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[1] Andrews, John B.: The Survey, April 5, 1913.

The first official report on the operation of the federal compensation law has recently been published and contains sixty-six closely printed pages devoted to embarrassing questions similar to the foregoing which have arisen because of claims arising out of occupational diseases. The recommendation that a new law be enacted which shall include compensation on account of occupational diseases arising in the government service is undoubtedly a step in which an enlightened government should again lead the way. No doubt at a later time it will be incorporated in the compensation laws of the various states.

A STRIKING EXPERIMENT IN SIMPLIFIED NUTRITION

Only those who have served an apprenticeship in experimental work and realize its pitfalls and technical difficulties can appreciate in its fullest significance the recent demonstrations by Professor Abderhalden of Halle regarding the synthetic powers of the animal organism.[1] We have repeatedly pointed out how essential complete digestion is as a preliminary stage in the utilization of our nutrients. The converse of this lies in the proof that the animal body is capable of constructing from the simple digestion fragments all the complexes which are necessary for the maintenance and proper functioning of the individual. On a small scale and over comparatively short periods of time this proof has repeatedly been furnished. A diet which has been shown to suffice for preserving nutritive equilibrium in some of the laboratory animals consisted of isolated amino-acids, representing the proteins; fatty acids and glycerol, representing the fats; simple sugars and inorganic salts. There is always room for criticism, in such experiments, on the ground that the periods of observation are too short. We are reminded of the efficient reserve forces and nutrient depots which may be requisitioned in times of need. Fasts of more than one hundred days have been recorded in the literature of nutrition, and forty-day fasts by the so-called hunger-artists have been common for "exhibition" purposes.

Abderhalden has now outdone all of this by successfully feeding an animal more than a quarter of a year on completely digested meat. Besides the salts present, the product ingested contained only amino-acids, together with small quantities of creatin and creatinin, sugar and fat. This phenomenal experimental feat was attended with a very considerable gain in body weight rather than signs of sacrifice of stored tissue substance. An ingenious turn was given to the demonstration of the power of the organism to synthesize protein by furnishing visible evidence. At the beginning of the experiment the dog was clipped, yielding 76 gm. of hair, which is largely protein in its make-up. At the end of three months of unique nutrition, interrupted by the exhaustion of the special food-supply rather than because of experimental failure, a complete new coat of hair had grown. No more striking exhibition of organic synthesis could be asked for.

The obvious extension of these experiments in simplified nutrition lies in ascertaining what amino-acids, if any, are absolutely indispensable. A beginning already made in this direction points to tryptophan and tyrosin as belonging to this category. Wherein their superiority and apparent nutrient importance lie must await future investigation. The way has been paved to new vistas in the domain of nutrition.

THE INSANITARY LABOR-CAMP

Labor-camps are constantly being formed throughout the United States wherever great engineering and structural works are under way. Because these camps are controlled by no laws, and because they are not supervised by any state department, they are a grave menace to the health of the laborers occupying them and the inhabitants of distant as well as adjacent towns. A consideration of labor-camp conditions in the Empire State may be informing and useful with relation to like communities throughout the union.[1]

There are 3,300 labor camps in New York state; 1,300 of them along the aqueduct now being built to convey water to the metropolis, 100 along the line of the state barge canal, 300 along the network of new highways, and 800 along railway lines, while 700 are scattered wherever bricks are baked, marble and slate quarried, fruit and vegetables canned and ore mined. Two thousand of these camps have been characterized as "plague spots." The total population of the camps is from 50,000 to 100,000 workers, practically all immigrants — in the main Italians, Poles and Armenians. The shacks which compose the camps are for the most part dilapidated shanties, not rain-proof; pure water for drinking and cooking is not always available in them, and the arrangements for disposing of human excreta are most imperfect.

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[2] Lead-Poisoning in Battle-Ships, editorial, The Journal A. M. A., Aug. 3, 1912, p. 375.

[1] Abderhalden, E.: Weitere Versuche über die synthetischen Fähigkeiten des Organismus des Hundes, Ztschr. f. physiol. Chem., 1913, lxxxiii, 444; also Synthese der Zellbausteine in Pflanze und Tier, Berlin, 1912.

[1] See Kingsley, R., in New York Times, March 23, 1913.

The 300 road-making camps are perhaps most dangerous, for their locations are changed frequently, and the health of one community after another is placed in jeopardy. The conditions correspond to those which actuated the Indian to remove his tepee — when the ground about it had become intolerable by reason of the deposits of excreta and cooking refuse the Indian moved it to a new place. Should the immigrant laborer and his family be suffering from any infection, or should they be bacteria carriers, the danger of the road-camps is correspondingly greater than that of the fixed camps.

The danger is not imaginary. During the last seven years at least one epidemic a year in New York State has been traced to insanitary foreign labor-camps and settlements. For an instructive example: In February, 1908, the previously healthy city of Peekskill had 150 cases of typhoid with twenty-eight deaths, all within a fortnight. Trained investigators of the State Health Department tramped over every foot of the Peekskill watershed. On the banks of a small mountain stream flowing indirectly into the Peekskill water-supply a labor-camp was found. Because the contractor had failed to equip the camp with adequate and inexpensive health facilities, the camp waste had infected the brook, the water in which had in turn infected the Peekskill supply.

The New York City Board of Water-Supply has compelled exemplary conditions within its jurisdiction; it has forced the contractors now building the aqueduct to have their 20,000 foreign laborers in scientifically and sanitarily constructed labor-camps. These have to be located on dry, sandy soil. Water for drinking and washing can be drawn only from wells drilled in rock and carefully cased in metal tubing. Food is carefully screened from flies. Waste is deposited in patent incinerators and burned or sterilized before it becomes stale. The sleeping-stretchers are of sanitary canvas laced to pipe-rail metal frames; the canvas strips are removed daily, disinfected in alkali solution, and scrubbed with stiff brushes.

To secure more humane and sanitary conditions in all its labor-camps the New York State Bureau of Industries and Immigration has drafted a measure which ought to become law, providing that:

1. Every labor-camp employer, on the establishment of each camp, shall notify the state commissioner of labor and furnish particulars.

2. If the state commissioner of labor finds the site insanitary he may order the camp's removal to a site approved by him.

3. Each camp-house shall be provided with sufficient cubic feet of air-space, board floors, windows, washing facilities, kitchen and health accommodations. Waste must be destroyed by fire and removed to a safe distance from buildings and from drinking-water.

4. The water-supply of each camp must be obtained from a source satisfactory to the labor commissioner.

THE MINNEAPOLIS SESSION

The American Medical Association will hold in Minneapolis its sixty-fourth annual session, which, according to the prospects, will be most successful. The scientific programs are attractive and provide valuable themes of discussion in all the branches of medical practice. A large number of pages in this issue of The Journal are devoted to giving these programs approximately in final form, although some names and titles may be added later.

The social side of the meeting is being well looked after, and opportunities for recreation will not be lacking. The description of social events and the plans for entertainment assure those who attend the session that an enjoyable time awaits both the members and their wives and daughters. The profession of Minneapolis, of St. Paul and of the whole state of Minnesota is well organized and fully appreciates its responsibility for making this meeting of the American Medical Association a splendid one in every way.

An unusual and propitious feature of the session is that the University of Minnesota is to be the hostess. This means that the scientific programs will be carried out not amid the distractions of a bustling city, but in a beautiful park, literally far from the madding crowd. The only events which will not be on the campus are the Opening Meeting, Tuesday morning, and the President's Reception and the Ball, Thursday night. It will even be unnecessary to leave the campus at noon, for the university is to serve luncheon to members, guests and exhibit attendants—a feature which will notably add to the comfort of the occasion. These happy arrangements will add greatly to comfort, and will contribute to the success of the scientific programs.

The annual meetings of the Association are a most delightful combination of professional profit and pleasure — a graduate course with the flavor of the old student-life. Physicians attend because the annual meeting affords a splendid opportunity for acquiring new ideas; for coming in touch with the big men in the profession of medicine; for conference on new and strange cases and old problems in new aspects; for looking up new books for study-tables and seeing the latest instruments and apparatus—in short, for getting abreast of the times. The meeting provides a change from regular work and thus is a distinct relaxation; many make a vacation trip following the week of the meeting. Everyone looks forward to the renewal of old acquaintances and finds his classmates, college chums and other associates, whose sympathies and activities lie along the same line of practice as his own.

The great Northwest has its hands outstretched in welcome. The Journal feels this hearty attitude plainly, and passes the welcome on to the profession of the country. Come to Minneapolis for the week of the meeting, and, if you can do so, plan to spend another week or two on the excursions. Come, expecting a pleasant and profitable session, and you will not be disappointed.

Current Comment

RAT-PROOF BUILDINGS

The recent elemental catastrophes—the cyclones in the middle West, and the floods in that vast region watered by the Ohio—have destroyed many hundreds of buildings. Here, out of misfortune much good should come. A timely appeal for the rat-proofing of dwellings and other buildings at present existing, under construction or in contemplation comes from the United States Public Health Service.[1] Those about to erect a new building or repair an old one, whether of frame, brick, rock, concrete or other construction, may learn from Dr. Simpson's paper what sanitary and economic benefits are to be derived from permanent rat-proofing; and measures to such ends should be demanded by prospective owners as a part of building contracts. The rat is far too prolific to be exterminated by such agencies as traps, poisons, lethal gases and the like; these may reduce the numbers of the rodents, but if there is food within reach, the surviving rats will have more to eat proportionally, and procreation will be stimulated the more. Rat extermination can be effective only by separating that creature from its provender. Dr. Simpson's paper appears to contain all necessary information to this end, so far as relates to buildings. Those already erected can be rat-proofed by the closure of all natural or accidental openings; by being remodeled with material impervious to rats; by the removal of structures which will give refuge to rats, and by the protection or removal of foods which rats will eat.

THE SOLICITUDE OF A PATENT-MEDICINE MAN

The Select Committee on Patent Medicines, at present in session in Great Britain, is throwing light into some of the cobwebbed corners of the nostrum business. Mr. John Lawson, the manager of an English "patent-medicine" house, Daisy, Ltd., was recently put on the witness stand by the committee. Daisy, Ltd., puts two headache powders on the market, "Daisy Headache Cure" and "Head Powders." The former consists wholly of acetanilid, of which there are five grains to the powder; the latter consists wholly of phenacetin, of which there are eight grains to the powder. In the course of Mr. Lawson's examination reference was made to that part of the United States Food and Drugs Act which requires that the presence of acetanilid or phenacetin shall be declared on the labels of "patent medicines" containing these dangerous drugs. Mr. Lawson testified that in his opinion it was "not desirable in the public interest that the presence of acetanilid and similar drugs should be declared on the labels of proprietary medicines." His reason was that "such decisions would show the public that acetanilid was the usual remedy for headache," with the result that persons of a saving turn of mind would be tempted to buy it by the ounce and do their own dispensing! Daisy, Ltd., is selling to an unsuspecting public five-grain powders of plain acetanilid as a "cure" for headache, to be "repeated in two hours if necessary," under the claim that these powders are "free from any injurious substances." And the company's manager entertains fears for the public's safety should it learn how to buy its acetanilid under the official name! The "patent-medicine" business is largely evil, usually dangerous and frequently vicious. Yet there are some things connected with it that excite the risibilities even if the smile evoked is a cynical one.

OMNE IGNOTUM PRO MAGNIFICO

The old saying, "the unknown is always awe-inspiring," describes a human weakness as old as the race. It is a frailty on which the shrewd exploiter of "patent medicines"—"ethical" or not—thrives. No physician bows in therapeutic worship before well-known official drugs, but when official drugs are put out under new names with their nomenclatorial identity submerged or lost, then we have another story. For the most ordinary medicaments if put out in trade-marked packages under a fancy name become endowed with therapeutic properties one would never dream of ascribing to them under their non-mysterious, official names. The salicylates are valuable drugs; their action is well known and their limitations are fairly well understood. But what a transformation when the salicylates are put out under proprietary names! Their therapeutic properties are limited only by the imaginative powers of those who sell them. For years, physicians have been prescribing sodium salicylate under the name Tongaline. Those who have done so, have prescribed a name, not a drug. They have learned nothing about the accurate prescribing of salicylates. Had they given the official drug during the same time, their experience might have been of great value to the science of therapeutics; as it is, it is so much wasted energy. We urge every physician who has the interest of scientific medicine at heart to read the two short articles in the Propaganda for Reform Department of this issue dealing with Tongaline and its imitations. Let it be borne in mind, however, that Tongaline is merely an example of the blight that nostrum exploitation throws over the science of medicine. Also, it is but one example of a type—a type that will exist so long as the medical profession will permit it, and no longer.

METHYL ALCOHOL AND THE BLOOD

In view of the wide-spread interest in the toxicity of wood alcohol and the growing appreciation of the unsuspected dangers which it harbors,[1] every new established fact in regard to the physiologic action of methyl alcohol deserves to be brought to notice. Despite the considerable literature now available on the subject,[2] very little has been disclosed respecting the relation of methyl alcohol to the blood. The toxic effect is made evident in this direction as well as in connection with other more striking phenomena. From experiments by Miura,[3] the blood-forming functions appear to be seriously affected by the poison. The production of anemia is a new finding in this connection; and the decrease in the circulating lymphocytes with simultaneous increase in certain other types of leukocytes points to an involvement of the hemopoietic system. The attendant albuminuria and urobilinuria are likewise not insignificant symptoms. Whether these pathologic phenomena are brought about by methyl alcohol itself or only by oxidative derivatives such as formaldehyd or formic acid is of secondary import here. Methyl alcohol introduced into the organism means physiologic trouble.

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[1] Simpson, F.: Rat-Proofing, Pub. Health Rep., April 11, 1913.

[1] Wood Alcohol-Poison, editorial, The Journal A. M. A., April 19, 1913, p. 1231.

THE CLINICAL THERMOMETER AS A VEHICLE OF INFECTION

It behooves us, especially in little things, to bear in mind that the public is being educated in medical matters. The other day THE JOURNAL received a communication from a layman calling attention to the danger in connection with the ordinary fever thermometer, and criticizing physicians in general for their carelessness in its use. Here is one paragraph:

> So far as my observation goes, there are very few physicians who give any care whatever to the thorough sterilization of this instrument. Not long ago a physician of good repute and an excellent man was called to attend a member of my family. His method of using the clinical thermometer is the same as that used by the majority of doctors. He took the thermometer from its little metal case, called for a glass of water, rinsed the thermometer around in the water, and then reached for his pocket-handkerchief to wipe it off. About that time our own thermometer was supplied to him for use. Barring possibly the pocket-handkerchief, his method is not widely different from others.

This correspondent calls attention to the propaganda which medical men have waged against the common drinking-cup, the common towel, etc., and he thinks that a propaganda should be waged against physicians who are so careless with the clinical thermometer. While probably there are very few educated physicians who would do as this particular physician did—at least to the extent of wiping the thermometer with his handkerchief!—still it is to be regretted that not all of us are so careful as we ought to be. Simply dipping the thermometer into water and wiping it off, even with gauze or cotton, is not sufficient. This will not prevent the carrying of bacterial infection. The thermometer should be disinfected before and after use, or should be kept in disinfecting material all the time. For this formaldehyd has been suggested,[4] but it is a slowly acting germicide,[2] and is irritant to some persons.[3] Alcohol is probably as effective a disinfectant for the purpose as anything.[4] A number of methods for using alcohol in this way have been suggested, among others that of Force,[5] who uses as a thermometer case a common ignition tube of heavy glass, 1 cm. in diameter and 11 cm. in length. The end of the thermometer is thrust into a soft rubber cork, and the case is filled with 50 per cent. alcohol; thus the instrument is constantly bathed in alcohol. This method would seem to be practical. In any event, some efficient method should be adopted. If any of our readers have an ideal method, we shall be glad to hear of it.

Medical News

CALIFORNIA

New Officers.—Solano County Medical Society, at the Vallejo General Hospital: president, Dr. W. S. S. Young; secretary, Dr. A. V. Doran, both of Vallejo.

New Building for Polyclinic.—The San Francisco Polyclinic has broken ground for a new building near Jackson and Polk Streets, adjoining the Tuberculosis Clinic.

To Require Intern Year.—At a recent meeting of the medical board of Leland Stanford Junior University, it was voted that a fifth or hospital intern year be required, prior to granting the degree of M.D., this requirement to begin with the class entering in 1914.

FLORIDA

State Society to Meet.—The fortieth annual meeting of the Florida Medical Association will be held in Miami, May 16-18.

Jacksonville Medical Association.—At a meeting of Jacksonville physicians, April 10, a local association was formed, of which Dr. S. E. Sissons was elected temporary chairman and Dr. Martin H. Smith, temporary secretary.

State Board Will Pay for Death Certificates.—Dr. Joseph Y. Porter, secretary of the State Board of Health, is sending out a circular to the press and commercial organizations urging the importance of full reports on the vital statistics of the state. The board has arranged to pay 25 cents for every death reported in proper form on the blanks provided by the board for that purpose.

GEORGIA

New Member of State Board.—Dr. A. D. H. Little, Thomasville, has been appointed a member of the State Board of Health.

Public Health Course in College.—With the beginning of the next term of the Medical College of Georgia, Augusta, a course on instruction in public health will be given. A laboratory for the analysis of food and milk has already been installed and it is said that A. L. Haggarty, chief food inspector of the Board of Health of the state, will be the instructor. The college will confer degrees in public health on those who complete the course and pass the required examination.

IDAHO

New Officers.—South Idaho Medical Society at Boise, April 24: president, Dr. Ralph Falk; secretary, Dr. R. L. Glase, both of Boise.

Personal.—Dr. F. M. Cole, Caldwell, has been appointed physician for Canyon County.——Dr. O. B. Steely, Pocatello, has been appointed a member of the State Medical Board.——Dr. M. H. Tallmann, Boise, physician of Ada County, has resigned.

New Quarters for State Board.—The State Board of Health which has, up to the present time, maintained quarters in the Folk building, Boise, is to have its offices on the third floor of the state capitol building, in the space known as the "art gallery."

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[2] Articles on Wood-Alcohol Poisoning, Queries and Minor Notes Department, THE JOURNAL A. M. A., April 19, 1913, p. 1247.

[3] Miura, S.: Ueber die Einwirkung des Methylalkohols auf das zirkulierende Blut, Biochem. Ztschr., 1913, xlix, 144.

[4] Beasley, Edward B.: The Clinical Thermometer as a Possible Disseminator of Some Communicable Diseases, THE JOURNAL A. M. A., Oct. 21, 1911, p. 1357. Gros, E. L.: An Antiseptic Thermometer Case, THE JOURNAL A. M. A., June 8, 1912, p. 1756.

[2] Post, W. E., and Nicoll, H. K.: The Comparative Efficiency of Some Common Germicides, THE JOURNAL A. M. A., Nov. 5, 1910, p. 1635.

[3] Morgan, W. E.: The Serpent's Tooth in Formaldehyd, THE JOURNAL A. M. A., Feb. 22, 1913, p. 590.

[4] Harrington, Charles: The Germicidal Action of Alcohol, Boston Med. and Surg. Jour., May 21, 1903.

[5] Force, J. N.: A Home-Made Antiseptic Thermometer Case, THE JOURNAL A. M. A., Sept. 7, 1912, p. 797.

ILLINOIS

Personal.—Dr. V. D. Crone, Canton, who recently underwent operation in Peoria, has recovered and resumed practice.——Dr. Warren E. Hillyer, Augusta, was operated on at the Marietta Phelps Hospital, Macomb, April 26.

Board Inspects New Hospital Site.—The State Board of Administration, accompanied by a delegation of members of the legislature, visited Alton, April 28, to inspect the site of the new State Hospital for the Insane. It is proposed to erect buildings on the cottage plan.

New Officers.—Central Illinois District Medical Society, thirty-ninth annual meeting at Pana, April 29: president, Dr. C. M. Jack, Decatur; secretary, Dr. Walter Burgess, Pana. The semi-annual meeting will be held in Pana in October.——Macoupin County Medical Society at Staunton, April 29: president, Dr. Thomas Hall; secretary, Dr. Charles D. King (reelected), both of Gillespie.——Illinois State Hospital Medical Association at Peoria, April 24 and 25: president, Dr. Eugen Cohn, Peoria State Hospital; secretary-treasurer, Dr. A. M. Foster, Anna State Hospital. The next meeting will be held at the Jacksonville State Hospital in July.

Chicago

New Officers.—Physicians' Club of Chicago, annual meeting, May 2: directors, Drs. J. B. Herrick, D. W. Graham and S. C. Stanton; secretary, Dr. A. N. Murray (reelected).

Personal.—Dr. Emery R. Hayhurst of the Sprague Memorial Institute has been selected by the Ohio State Board of Health to take charge of the Bureau of Occupational Diseases recently created.——Dr. Liston H. Montgomery was elected president of the Western Society of the Army of the Potomac at its twenty-fifth annual meeting, April 30.——Dr. P. J. Tischart is confined to his bed, the result of an injury while alighting from a street car several weeks ago.——Dr. Edson B. Fowler is confined to his bed, the result of stepping on a nail, April 28.

Higher Entrance Requirements.—At the annual meeting of the board of trustees of the University of Illinois, March 11, it was voted that for students entering in September, 1913, the requirements for admission to the College of Medicine (formerly the College of Physicians and Surgeons of Chicago) be raised to at least one year of collegiate work in addition to fifteen units of common and high school work, and that for students entering September, 1914, the minimum requirement further be increased to two years of collegiate work in some college or university of recognized standing.

Eligible List for County Hospital.—As the result of examination for positions on the attending staff of the county hospital, the following applicants have been certified as eligible: department of surgery, Drs. Allen B. Kanavel, E. Wyllys Andrews, Charles Davison, George F. Thompson, Harry M. Richter, Paul F. Morf, Frederick A. Besley, Charles J. Rowan, Laurence Ryan, William R. Cubbins, Kellogg Speed, Frederick G. Dyas, Dean D. Lewis, John A. Wolfer, George de Tarnowsky, Paul Oliver, Charles A. Parker, George N. Pratt, Frank E. Pierce, Nelson M. Perry, Victor L. Schrager, Floyd B. Riley, Charles F. Yerger, Alfred J. Willits, Roger T. Vaughan, Dallas B. Phemister, William Fuller and Ernest C. Riebel; department of pathology, Drs. E. R. Le Count, Harry G. Weller, Maximilian J. Herzog; department of ear, nose and throat, Drs. Stanton A. Friedberg, George W. Boot, Evanston, Joseph C. Beck, Robert Sonnenschein and Alfred Lewy; department of medicine, Drs. Joseph A. Capps, Charles S. Williamson, Theodore Tieken, Milton M. Portis, Ludwig M. Loeb, Joseph L. Miller, William J. Butler, Frederick Tice, Ernest E. Irons, Joseph M. Patton, Ellis K. Kerr, Oak Park, Leon Bloch, Roger T. Vaughan, Walter W. Hamburger, Wilber E. Post, Samuel R. Slaymaker and Karl K. Koessler.

INDIANA

Sanatorium News.—The Fort Wayne and Allen County Antituberculosis Society has selected a site on the County Farm for the establishment of a shack colony for tuberculosis, to accommodate about twenty patients.——The tuberculosis camp committee of the Associated Charities of Anderson has arranged to erect cottages on the pesthouse farm east of the city, for the benefit of tuberculosis patients during the summer months

Personal.—Dr. Eric A. Crull has been elected medical director of the Fort Wayne Antituberculosis Society.——Dr. Oscar S. Deitch, Indianapolis, who suffered a collapse as the result of exposure at the time of the flood, is reported to be convalescent.——Dr. Moses Thorner, Indianapolis, has been elected president of the Indiana Association of Columbia University Alumni.——Dr. H. H. Sutton, Aurora, has been appointed and Dr. J. S. Boyers, Decatur, reappointed, to membership on the State Board of Health.

IOWA

Sanatorium Burned.—Health Haven Sanitarium, Des Moines, was destroyed by fire, April 6. All of the patients were removed without casualty. The loss is about $7,000, partially covered by insurance.

Personal.—Dr. Charles E. Stewart, Iowa City, has resigned as postoffice inspector.——Dr. E. B. Fulliam, Muscatine, who has been seriously ill with pneumonia, is reported improving.——Dr. A. M. Pond, Dubuque, has been appointed district surgeon of the Illinois Central system, vice Dr. Allen G. Staples, deceased.——Dr. Murdoch Bannister, Des Moines, has retired from the State Board of Control to resume practice at Ottumwa.

Hospital News.—The German Evangelical Lutheran Churches of Iowa are planning to build a Deaconess Home and Hospital at Marshalltown to cost $75,000. A site for the home has already been purchased for $14,000.——St. Joseph's Mercy Hospital, Waverly, is to be enlarged this summer to about thirty-two rooms. The cost of the addition will be about $20,000.——The managers of the Florence Crittenton Home, Sioux City, have announced plans for the construction of a maternity hospital.——Drs. E. S. Heilman and T. J. Houlihan have arranged to build a two-story hospital in Ida Grove this summer, to accommodate twenty patients.

KANSAS

Camp to Remain.—The tuberculosis camp at North Topeka is to be allowed to remain where it is, pending definite arrangements for a permanent home.

Addition to Medical Staff.—Drs. H. S. Kickok, W. H. Carter, W. P. Greening, G. K. Purves and H. H. Taggart have been elected members of the staff of Wesley Hospital, Wichita.

Personal.—Dr. and Mrs. Virgil W. McCarty, Rosedale, sailed for Europe, April 26.——Dr. L. P. Warren, Wichita, has returned after a year abroad.——Drs. Archibald Jones and Martin Hagar have been reappointed members of the Wichita Board of Health.——Dr. A. B. Peters has been elected mayor of Mankato and Dr. J. Wesselowski, Jewell City, justice of the peace.——Dr. F. B. May, Hunnewell, is reported to be critically ill following an operation for appendicitis.

New Officers.—Seventh District Medical Society organized at Hutchinson, April 24: president, Dr. S. M. Colladay; secretary, Dr. W. F. Schoor, both of Hutchinson.——Marshall County Medical Society at Marysville, April 29: president, Dr. W. E. Ham, Beattie; secretary, Dr. Jennie L. E. Eddy, Marysville.——Brown County Medical Society at Hiawatha, April 8: president, Dr. H. J. Harker, Horton. A resolution was adopted that local newspapers be requested not to mention names of physicians in connection with any case.

MARYLAND

New Hospital.—Plans for the new Eastern Shore State Hospital, Cambridge, for the construction of which $200,000 was appropriated by the last legislature, have been selected and approved by a jury of which Dr. Hugh H. Young is chairman.

Baltimore

Social and Mental Disease Exhibit.—An exhibit of cases of social and mental diseases is being held by the Committee of Public Instruction of the Medical and Chirurgical Faculty of Maryland. The photographs and descriptive text relate to alcohol, tuberculosis, mental diseases, social diseases, infant mortality, etc.

New Addition to Hopkins Group.—Plans are being approved for the new James Buchanan Brady Urologic Clinic, made possible by a gift of $200,000 from Mr. Brady. The building is to be of brick, five stories in height and to adjoin the present surgical building with which it will be connected by a passageway. Mr. Brady has agreed to give $15,000 annually for maintenance and support.

Personal.—Dr. C. R. Davis was seriously injured, April 27, in a collision between his automobile and a street car.——

Dr. J. F. Hogan has resigned from the staff of Mercy Hospital and will do special work at the Sydenham Municipal Infectious Disease Hospital.——Dr. Marshall L. Price, formerly secretary of the State Board of Health, has been adjudged insane and committed to the authorities of *Baltimore County.*

MICHIGAN

Luncheon to English Physician.—Dr. J. H. Kellogg, Battle Creek, gave a luncheon in honor of Dr. Eric Pearce Gould at the Battle Creek Sanatorium, April 29.

New Officers.—Benzie County Medical Society at Frankfort: president, Dr. C. P. Doyle, Frankfort; secretary-treasurer, Dr. E. J. C. Ellis, Benzonia.

Hospital Relieved from Taxation.—As the result of an appeal made by the officials of the Detroit General Hospital to the aldermen to exempt the hospital property from the $150,000 assessment levied against it, the Board of Review on April 28, voted to cancel the assessment.

Hospital Items.—The Board of Estimators Committee of the Board of Health and Poor Commission Funds of Detroit have under consideration plans for construction of an annex to St. Mary's Hospital to cost about $50,000 and to accommodate about one hundred additional patients.——Building operations have been commenced on the new hospital to be erected at the Huron County Farm.——The new Union Benevolent Association Hospital to be erected at the east end of Grand Rapids will consist of two buildings, five stories in height, constructed of brick and stone and to cost about $300,000. The hospital is the gift of John W. Blodgett. The old hospital at Lyon Street and College Avenue is to be sold.

MINNESOTA

New Officers.—Stearns-Benton County Medical Society at St. Cloud, April 17: president, Dr. G. E. Sherwood, Kimball; secretary-treasurer, Dr. J. C. Boehm, St. Cloud.

Memorial Meeting.—At the meeting of the Blue Earth County Medical Association held in Mankato, March 31, a portion of the evening was devoted to a memorial for the late Dr. A. O. Bjelland, which was read by Dr. Helen Hughes-Hielscher.

New Tuberculosis Hospital.—Work on the new St. Paul City Hospital for the treatment of tuberculosis patients, for which an appropriation of $75,000 has been made, began May 1. The hospital will receive both advanced and incipient cases and will accommodate eighty-four patients.

Medical Extension Lecturers.—Lectures in the medical extension course at the University of Minnesota were delivered, on April 22, by Dr. John B. Murphy, Chicago, on "The Need for an Efficient National Health Service in the United States from an Economic Standpoint," and on April 29, by Dr. Henry B. Favill, Chicago, on "The Growth of Hygienic Ideals."

Personal.—Dr. J. Frank Corbett, city bacteriologist of Minneapolis, has resigned to take effect July 1, in order that he may devote his entire time to experimental surgical work in Minnesota.——Dr. Troy S. Miller, Minneapolis, charged with having caused the death of a young woman by an operation, was acquitted, April 11.——Dr. D. C. Darrow has been elected president of the Moorhead Automobile Club.

Sanatorium Notes.—The Lake Shore Sanatorium at White Bear Lake will be ready in a few days to receive patients. The institution is under the medical supervision of Drs. Harry Cannon, Frank E. Balcome and T. J. Moynihan, St. Paul.——At the last meeting of the Ottertail County Commissioners an additional sum of $8,000 was appropriated toward the new county sanatorium to be erected on the shore of Ottertail Lake.——Blue Earth, Goodhue, Crow Wing, Marshall, Itaska and Polk counties have expressed a willingness to make substantial appropriations for tuberculosis sanatoriums.——Ramsey County has decided to take advantage of the county sanatorium law and secure assistance from the state in the building of a county sanatorium.

MISSISSIPPI

Medical College Property Sold.—The property of the Mississippi Medical College at Meridian, was sold at auction, recently, for $22,250.

New Officers.—Jefferson County Medical Society at Fayette: President, Dr. L. R. Harrison, Fayette; secretary-treasurer, Dr. S. R. Towns, Union Church.——Simpson County Medical Society at Mendenhall: president, Dr. J. N. Chandler; treasurer, Dr. A. C. Norman, both of Braxton.

Personal.—The office of Dr. C. W. Smith, Glendora, was burned April 19.——Dr. W. S. Sims, Jackson, has started for Europe.——The house of Dr. J. R. Sharman, Meridian, was destroyed by fire April 2.

Colored Physicians Meet.—The Colored Medical Association of Mississippi held its annual meeting in Jackson, April 23-24 and elected Dr. J. W. Sharrod, Meridian, president; Dr. J. C. Childress, Jackson, vice-president; Dr. L. R. Young, Hattiesburg, secretary, and Dr. D. W. Turner, Jackson, treasurer.

NEBRASKA

New Officers.—Nemaha County Medical Society at Auburn, April 16: president, Dr. B. F. Lorance; secretary, Dr. E. M. Tyler, both of Auburn.

State Medical Association Meeting.—The annual meeting of the Nebraska State Medical Association will be held in Omaha, May 13-15 with headquarters at the Rome Hotel.

Alumni Meeting.—At the annual meeting of the Alumni Association of the John A. Creighton Medical College, Omaha, April 24, Dr. M. J. Scott, Butte, Mont., was elected president; Dr. N. F. Steiner, Omaha, vice-president, and Dr. George A. Stevens, Omaha, secretary-treasurer.

Gift to College Library.—Dr. M. J. Scott, Butte, Mont., has donated $1,000 toward the endowment of the medical library in connection with the John A. Creighton Medical College, Omaha, and an additional sum of $200 annually for the maintenance fund.

Personal.—Dr. J. E. Summers has been reappointed chief surgeon of the Douglas County Hospital, Omaha.——Dr. Andrew Johnson, superintendent of the Norfolk State Hospital, has resigned.——The office of Dr. George P. Wilkinson, Omaha, was destroyed by fire April 13.——Dr. Caroline D. Piasecki, St. Paul, sailed for Europe, April 27.

County Secretaries' Meeting.—The meeting of the Association of County Secretaries and Officers of the State will be held May 12, at the Rome Hotel, Omaha. A general discussion will be conducted under the following heads: (1) "Should the fiscal year coincide with the calendar year; (2) should there be coordinate work between the county secretaries and the councillors of their respective districts."

NEW YORK

Tuberculosis Camp to Open.—The tuberculosis summer camp, Huntingtonville, is to be opened early this month. The camp has accommodation for twenty patients, who are housed two in a shack.

Typhoid in Albany.—Twenty new cases of typhoid were reported in Albany on April 29, bringing the number of cases thus far reported during the present epidemic up to 100. Two deaths have occurred. The spread of the disease is attributed to the recent inundation of the city's filtration plant.

Medical Women Elect Officers.—At the seventh annual meeting of the Women's Medical Society of the State of New York in Rochester, April 28, the following officers were elected: president, Dr. Marion Craig Potter, Rochester; vice-presidents, Drs Angenette Parry, Emily Dunning Barringer, New York City, and Evaline P. Ballintine, Rochester; secretary, Dr. Sarah Gardiner Pierson, Rochester, and treasurer, Dr. Edith R. Hatch, Buffalo. At the annual dinner Dr. Grace Peckham Murray, New York City, presided.

New York City

Greenpoint Hospital Begun.—The cornerstone of a new hospital at Kingsland Avenue and Bullion Street has been laid. The building is to cost $300,000 and will be six stories in height.

Small-Pox on Steamer.—Because of a case of small-pox on the Red Star steamer *Finland*, the 208 third-class passengers on the boat were placed in isolation on Hoffman Island until all danger of infection should be passed.

Valentine Will Approved.—Supreme Court Judge Clark, on April 24, approved the clause in the will of the late Dr. Ferdinand C. Valentine who gives the principal of the estate, on the death of the legatees mentioned, to the New York Academy of Medicine, the income to be used as an annual prize for the best research work in the field of genito-urinary diseases.

Personal.—It is announced that Dr. Hermann M. Biggs, New York City, has consented to accept Governor Sulzer's appointment as head of the reorganized State Health Department.——Dr. Myron D. Lipes, Cobleskill, is under treatment for septicemia at the Albany City Hospital.——Dr. John W. Poole, Brooklyn, is reported seriously ill with septicemia due to an operation wound.——Dr. J. Herbert Lawson sailed for Europe on May 3.

Police Surgeons Investigated.—An investigation of the surgical bureau of the police department has resulted in a report which finds many abuses and little to praise in the present system. It is claimed that the police surgeons receive too much money for too little work, that they have no regular office hours exclusively for policemen; that they are permitted to engage in outside practice and in many instances live outside of the districts in which they serve. The report states that there are no medical histories of the men; that there is no system of periodical physical examinations, and that the surgeons are not required to make sanitary inspection of the station houses.

A Further Safeguard for Sale of Milk.—The board of health proposes a set of rules which will bar many small dealers and grocers from selling milk. The regulations under consideration would permit the sale of milk only in stores approved by the department of health, and in places where other foodstuff are sold only in original packages. The use of a small room in which milk is stored is prohibited, nor shall any room be used which is unduly crowded. The floors, walls and ceilings of rooms in which milk is stored or sold must conform to certain requirements. Many dealers say that these regulations cannot be followed, but the health commissioner has thus far given no indication of what compromise might be accepted.

To Standardize the American Child.—The New York Milk Committee and leading experts from many states have joined in a nationwide examination of children in order through a series of competitive examinations to determine a standard for the normal healthy American child. Examinations for the first contest have been held in Lenox Hill House, a settlement house on East Seventy-Second Street. Prizes will be awarded not only to the best developed babies of different ages, but the baby that fails to get a prize but shows the greatest progress at the next examination will receive one. In addition to establishing standards for normal children of various ages and different races, the investigation will endeavor to show the results of intermarriage between the nationalities and the effects of systematized medical and social work in the quarters of the foreign population. Talks to mothers are given in connection with the contests. Different methods will be carried out in the various states, as for instance, in North Carolina; the contests will be under the direction of the Hookworm Commission and will be made a part of the campaign against that affection. In Massachusetts it will be carried out among the babies of factory workers by social workers; in Louisiana, Tennessee, Oklahoma, Montana, Missouri and Washington prizes of $1,000 will be given.

NEW JERSEY

New Officers.—Hunterdon County Medical Society at Flemington, April 22: president, Dr. F. A. Thomas; secretary, Dr. O. H. Sproul, both of Flemington.

Personal.—Dr. Charles S. Heritage, Glassboro, who has been in Hot Springs, Ark., under treatment for nephritis for a year, is making good progress toward recovery and expects to return to his practice early in May.——Dr. Alexander Marcy, Jr., Riverton, has been appointed a member of the consulting staff of the State Village of Epileptics, Skillman.——Dr. Richard P. Francis, Montclair, fractured his clavicle and sustained serious internal injuries in a collision between his automobile and another car, recently.

Hospital News.—The workers for the Orange Memorial and Orthopedic Hospitals who are endeavoring to raise $150,000 or more for these institutions, announce that up to April 17, $41,503 had been subscribed.——Princeton University is to have a new infirmary to cost $150,000. Plans have already been approved and $10,000 has already been subscribed. The infirmary will consist of a general hospital, a contagious disease building and a building for domestic service. The main building will be four stories in height and will contain four wards, a dispensary, chapel, etc.——The Camden County Board of Freeholders have authorized the purchase of the site for a county tuberculosis hospital at Ancona, a tract of land containing 83 acres and a building known as Dr. Snowden's Sanitarium, to cost $11,000. On this site will be built a county tuberculosis hospital to cost approximately $30,000.

NORTH CAROLINA

New Officers.—Fifth District Medical Society at Fayetteville, April 22: president, Dr. J. W. Halford, Chalybeate Springs; secretary, Dr. A. B. Croom, Maxton.

State Buys Land for Blind Institute.—The board of directors of the State Institute for the Blind have purchased a tract of ground, eighty acres in extent, near Raleigh, for a new home for the institution at a cost of $33,750.

Health Board Meetings.—The State Health Officers' Association will meet in Morehead City, June 16.——The State Board of Medical Examiners for Licensure of Physicians will meet in Morehead City, June 12.——The annual meeting of the State Board of Health will be held at Morehead City, June 18, during the session of the State Medical Society.

State Society to Meet as Originally Planned.—The annual session of the Medical Society of the State of North Carolina, originally planned to be held in Morehead City, June 17, and later changed to June 10 on account of the date conflicting with that of the meeting of the American Medical Association, has been again fixed at the original date and place, June 17. The headquarters will be at the Atlantic Hotel.

Portrait Presented.—The Medical Society of the State of North Carolina has presented to the state library an oil painting of the late Dr. Patrick Livingston Murphy, superintendent of the Western State Hospital, Morganton. Dr. J. Howell Way, Waynesville, presided, the presentation address was made by Dr. Richard H. Lewis, Raleigh, and the portrait was accepted on behalf of the state by Governor Locke Craig.

Personal.—Dr. J. W. Austin, High Point, announces his intention to limit his work to diseases of the eye, ear, nose and throat.——Dr. Henry T. Bahnson, Winston-Salem, has been appointed a director of the new Home for the Widows of Confederate Soldiers.——Dr. William C. Steele, Mount Olive, is under treatment in St. Luke's Hospital, Richmond.——Dr. Charles S. Mangum, Chapel Hill, has been elected president of the Alumni Association of Jefferson Medical College.——Dr. Albert Anderson, Concord, has been elected superintendent of the State Hospital, Raleigh, vice Dr. L. J. Picot.

Cone Memorial Hospital.—The widow of the late Moses H. Cone, Greensboro, has conveyed in fee simple the bulk of the estate left by her husband, which amounts to about $2,000,000 to a board of trustees to build a hospital as a memorial to her husband. The deed of trust is irrevocable, but Mrs. Cone reserves the income from the estate during her lifetime. The deed embraces a site of sixty-seven acres in Greensboro, a large landed estate in Watauga County, cotton mill stocks, etc. Of the fifteen trustees, Mrs. Cone is to appoint eight, the governor three, and the Guilford County Board of Commissioners, the commissioners of the city of Greensboro, the Wautauga County Board of Commissioners and the Guilford County Medical Society, one each. Dr. John Wesley Long, Greensboro, has been elected by the Guilford County Medical Society.

PENNSYLVANIA

Personal.—Dr. George W. Widder, Harrisburg, was elected president and Dr. J. M. J. Raunick, reelected secretary of the Harrisburg Board of Health.——Dr. J. B. McAlister has been appointed a member of the Harrisburg Board of Health.——Dr. F. W. Coover, Harrisburg, and Dr. Marion Ulrich, Millersburg, will spend the summer in Europe.

State Physicians in Charge at Gettysburg.—During the celebration of the fiftieth anniversary of the battle of Gettysburg, July 2, 3 and 4, when 50.000 visitors are expected in that town, every safeguard for their safety will be taken by Dr. Samuel G. Dixon, State Health Commissioner, who has completed arrangements for an emergency hospital of 175 beds. The hospital tents will be under Dr. Dixon's personal supervision. The hospital will consist of thirty hospital tents with accommodations for sixteen doctors and eighteen nurses. It will have a commissary department and a fully equipped operating tent, with a consulting surgeon constantly on duty. There will be in addition two hospital cars, so serious cases may be transferred daily, if need be, to hospitals in nearby cities. In addition to the main hospital there will be two dispensaries with six beds, each dispensary with a nurse and physician in charge. One of these will be at the railroad station to care for visitors who may be ill on arrival and one near the great assembly tent where the meetings are to be held. In addition to these dispensaries there will be six emergency stations for first aid. There will be auto ambulance service to convey patients to the main hospital. The regular water-supply of Gettysburg will be augmented by specially installed pumps. Flowing fountains will be installed about the city and grounds. All wells in Gettysburg and vicinity have been examined and those which are not safe will be closed.

Philadelphia

Gives Home to Charity.—Miss Mary Gibson, of Maybrooke, Wynnewood, has given the use of her home in Narberth for a summer holiday house for children. The place has been named "The King's Daughters' Holiday House," and will open about the middle of June. As this is early for school children, babies from convalescent wards of hospitals will have the first privileges of the home.

Personal.—Dr. Peter F. Moylan is critically ill and has been confined to his home for three weeks.——Dr. James Tyson, emeritus professor of medicine at the University of Pennsylvania, was the guest of honor at the annual banquet of the Northern Medical Association, April 30.——Dr. Wilmer Krusen was given a dinner at the St. James Hotel, April 30, by Dr. Frank C. Hammond.

New Hospital for Germantown.—A site for the new Providence General Hospital, planned to provide the western section of Germantown with an institution easy of access, has been selected at Wissahickon Avenue and Lincoln Drive. The plot includes 7 acres and was one of the properties procured from William Penn by the Rittenhouses. The hospital will be non-sectarian. On condition that $150,000 be raised, an offer of a substantial donation has been made.

Evans Museum Cornerstone Laid.—The cornerstone of the University of Pennsylvania's new building at Fortieth and Spruce streets, to be known as the Thomas W. Evans Museum and Dental Institute and School of Dentistry, was laid with appropriate ceremonies, May 3. The building is a memorial to Dr. Thomas W. Evans, an American dentist who died in Paris, Nov. 14, 1897. At his death it was found that he had left his entire estate valued at $3,000,000 for the present museum.

Changes in Hospitals.—Work has begun on the new $200,000 six-floor surgical wing of the University Hospital.——A decision has been reached in the competition for the Jewish Maternity Hospital to be built at Fourth and Spruce Streets to cost $50,000.——The medical and surgical departments of the hospitals of the Woman's Medical College of Pennsylvania were established in 1904. All departments of medical and surgical service for men, women and children are here conducted by the college faculty. This is the main branch of the hospitals: it immediately adjoins the college building.

More Fresh Air Schools.—During the past two years, three fresh air schools for delicate children have been established in various sections of the city. These are in session on the roof of the Lighthouse Social Center, 142 West Lehigh Avenue; the McCall School Annex at Sixth and Spruce and the Wilson School Annex at Twelfth and Federal. In the annual report of the Division of Medical Inspection of Public Schools, of which Dr. Walter S. Cornell is director, particular provision is made, not only for children suffering from malnutrition and other ailments, but also for the healthy pupils by a widespread introduction of fresh air classes in all schools.

WISCONSIN

New Officers.—Chippewa County Medical Society at Chippewa Falls, April 23: president, Dr. C. A. Hayes; secretary-treasurer, Dr. A. L. Beier, both of Chippewa Falls.

Isolation Hospitals Needed.—A statement has been sent by the secretary of the State Board of Health showing the need of isolation hospitals throughout the state for the care of patients suffering from communicable diseases.

Resolutions Regarding Dr. McCarty.—Dane County Medical Society at its April meeting adopted resolutions expressing the loss of the society sustained by the death of Dr. Thomas H. McCarty, Madison, and the sympathy of the society with the family.

Personal.—Dr. L. R. Sleyster has been elected mayor of Waupun.——Drs. F. C. Suiter and G. J. Egan have been reappointed surgeons for the La Crosse division of the C. M. and St. P. R. R.——Dr. G. E. Crosley, Milton Junction, has been appointed local surgeon for the C. M. and St. P. R. R.——Dr. A. G. Hough, Morrisonville, has started for Berlin.

GENERAL

Conference of Charities and Correction to Meet.—The fortieth annual session of the National Conference of Charities and Correction will be held in Seattle, Wash., July 5-7, under the auspices of the Seattle Central Council of Social Agencies.

Federation of Licensing Boards.—The Federation of Medical Examining and Licensing Boards of New England held its meeting in Boston, April 5, Dr. Gardiner T. Swarts, Providence, R. I., presiding. Dr. J. L. M. Willis, Eliot, Me., was elected chairman and Dr. Samuel H. Calderwood, Roxbury, Boston, secretary of the organization.

Central America no Longer a Menace.—Surgeon Joseph H. White, U. S. P. H. Service, on duty at New Orleans, who recently returned from an inspection of Central American ports and interior towns, expressed the opinion that nowhere in the territory visited was there anything which suggested danger to the public health of the United States.

Academy of Medicine Meeting.—The thirty-eighth annual meeting of the American Academy of Medicine will be held in the Leamington Hotel, Minneapolis, June 13-15, under the presidency of Dr. Ray Lyman Wilbur, San Francisco, the subject of whose address is "The Physician of the Future." The opening session of June 14 will be devoted to the discussion of the physical bases of crime.

Malarial Congress.—A malarial section of the National Drainage Congress was organized at the recent meeting in New Orleans. Dr. Oscar Dowling was elected president of the section, and Drs. C. C. Bass, New Orleans; Seale Harris, Mobile; Walter S. Leathers, University, Miss.; Morgan Smith, Little Rock, Ark.; R. H. von Esdorf, U. S. P. H. S., and W. A. Evans, Chicago, were made members of the executive committee.

Bequests and Donations.—The following bequests and donations have recently been announced:

St. Vincent's Hospital, New York City, $10,000 by the will of Katherine I D. Harned.

Mount Sinai, Beth Israel, Presbyterian and St. Vincent's Hospital and Montefiore Home, New York City, each $5,000 by the will of Moses Weinman.

House of Rest for Consumptives, New York City, $100,000, to be designated the Amelia Sturges Morgan Memorial Fund, and Dr. James W. Markoe, New York City, an annuity of $25,000, by the will of John Pierpont Morgan.

Presbyterian Hospital, New York City, $15,000, and St. Vincent's Hospital, on the death of the testator's husband, $30,000, by the will of Mrs. Cornelia Eaton.

Harrisburg (Pa.) Hospital, $5,000 by the will of William H. Boyer, New York City.

Rockefeller Institute for Medical Research, $200,000, the income of which is to be used "to investigate into the causes and nature of cancer, and methods of its prevention and treatment," by the will of Henry Rutherford, Grand Isle, Vt.

Rockford (Ill.) Hospital, $60,000, for an addition to be known as Emerson Hall, donation by Mrs. Ralph Emerson.

American College of Surgeons.—At the Congress of American Physicians and Surgeons recently held in Washington, an organization was founded, similar to that of the Royal College of Surgeons of England. It is to be called the American College of Surgeons, will have its headquarters in Chicago and will grant to surgeons who meet its requirements the degree of Fellow of the American College of Surgeons, the recipients of which will have the right to use the initials F.A.C.S. in connection with their names. The officers elected are: president, Dr. John M. T. Finney, Baltimore; Drs. W. W. Chipman, Montreal, and Rudolph Matas, New Orleans, vice-presidents; Dr. Franklin H. Martin, Chicago, secretary; Dr. Albert J. Ochsner, Chicago, treasurer, and Drs. J. B. Murphy, Chicago; Edward Martin, Philadelphia; George E. Brewer, New York City; Charles A. Mayo, Rochester, Minn.; Harry M. Sherman, San Francisco; George W. Crile, Cleveland; William D. Haggard, Nashville; Charles F. Stokes, U. S. Navy; H. A. Bruce, Montreal; L. N. McKechnie, Vancouver, B. C., and Fred J. Cotton, Boston, regents. The first meeting of the organization will be held in Chicago in November next, when the president of the Royal College of Surgeons of England will be the guest of honor.

FOREIGN

Hygiea's Ten Year Index.—Our Swedish exchange, *Hygiea*, has recently published a collective index for the years 1899-1908, inclusive, which forms alone a volume of 280 pages. This monthly is the official organ of the Swedish Medical Association and, besides original articles and monographs in each number, contains the detailed reports of the proceedings at each of the weekly meetings of the society.

Other Deaths Abroad.—Beside those noted by our foreign correspondents, the following deaths are noted: Jordan Lloyd, M.Sc., M.D., F.R.C.S., Eng.; senior surgeon to the Queen's Hospital and professor of surgery in the University of Birmingham; died suddenly at his home in Edgbaston, April 4, from angina pectoris, aged 59. In the death of Mr. Lloyd, Birmingham

In schools 42 children suffered accidents, 29 persons were killed by electric currents, 102 persons were bitten by animals, and 91 persons collapsed for want of food or from cold. The corps has instituted special first-aid classes (Samaritan Classes) for all circles of the population. These were attended last year by 900 persons, and numerous teachers of both sexes, as well as members of factories, the police-force, artisans and shopkeepers formed the audience. They had to pass certain examinations to show that they had profited enough by the lectures and demonstrations to be useful in preventing loss of life in cases of urgency. The report also mentions the coming congress for first aid which will take place in Vienna in September, and it is clear that it will be a real success, because so many eminent men from all countries will take part in the proceedings of this important convention. [The population of Vienna is somewhat over one and a half million. —Ed.]

Marriages

Arthur Clyde Knight, M.D., Warm Springs, Mont., to Miss Mathilde LeRoy of Anaconda, Mont., at Butte, Mont., April 9.

Oscar Richard Fletcher, M.D., Sanford, Va., to Miss Nancy Virginia Taylor, at Temperanceville, Va., April 17.

Francis Brinton Jacobs, M.D., Philadelphia, to Miss Phebe Anne Price of Whitford, Pa., at Glen Loch, Pa., April 24.

Howard S. Anders, M.D., to Mrs. Maud Howland Wiggins, both of Philadelphia, in New York City, March 12.

Chester Overton Burruss, M.D., Fredericksburg, Va., to Miss Margaret Byers, at Sharon, S. C., April 17.

William Lawson Thornton, M.D., Birmingham, Ala., to Miss Leila DeVan Dumas of Mobile, April 20.

Charles Daniel Easton, M.D., Newport, R. I., to Miss Margaret Hays of New York City, April 23.

Maurice A. Loebel, M.D., Chicago, to Miss Jessie J. Marshall of Seneca, Ill., in Chicago, April 26.

John D. Spelman, M.D., Cincinnati, to Miss Felicia Hangar of Staunton, Va., at Cincinnati, April 17.

Foster Miller Hull, M.D., to Miss Carmelita Marie Orsatti, both of Los Angeles, April 23.

Joseph Leland, M.D., Tuscaloosa, Ala., to Miss Margaret Patton of Birmingham, Ala., April 16.

Frederick Johansen, M.D., to Miss Alma Morris, both of Carthage, Mo., in Chicago, March 27.

Wilbur L. LeCron, M.D., to Mrs. S. W. Rosencrantz, both of Milwaukee, April 12.

Deaths

Samuel Willard (license, Illinois); surgeon of the Ninety-Seventh Illinois Volunteer Infantry during the Civil War; founder and first librarian of the Springfield Public Library and superintendent of city schools; from 1890 to 1897 teacher of history in the West Division High School, Chicago; died at his home in Chicago, February 9, from senile debility, aged 91.

Robert Campbell, M.D. Queens University, Belfast, Ireland, 1872; assistant registrar of vital statistics of the Health Department of the City of New York, assigned to the Borough of Queens; for sixteen years a member of the dermatologic staff of the New York Dispensary, died at his home in Jamaica, Long Island, April 19, from acute gastritis, aged 63.

Rosa Kleine Martin Upson Liebig, M.D. University of Michigan, Ann Arbor, 1881; said to have been the first woman to have been admitted to membership of the Iowa State Medical Society; overseer of the poor of Marshall County; for several years secretary and treasurer of the Iowa Public Health Association; died at her home in Marshalltown, April 24, aged 67.

Oliver H. Koons, M.D. Jefferson Medical College, 1883; of Brooklyn; a specialist on diseases of the throat; while driving near his country home at South Orange, N. J., April 21, suffered a cerebral hemorrhage from which he died while being taken to the hospital, aged 60.

Thomas J. Symington, M.D. Queens University, Kingston, Ont., 1881; a member of the American Medical Association; formerly president of the Austin Flint Medical Society; for many years local surgeon at Ackley, Iowa, for the Illinois Central and Minneapolis and St. Louis railroads; died at his home, April 21, from erysipelas, aged 56.

Joseph V. M. Cain, M.D. Georgia College of Eclectic Medicine and Surgery, Atlanta, 1893; formerly professor of obstetrics and gynecology and president of the faculty of his alma mater; professor of gynecology in the Hospital Medical College, Atlanta; died in a private sanatorium in Atlanta, April 18, aged 55.

Francis M. Hiett, M.D. Rush Medical College, 1865; one of the charter members of the Medical Society of the Missouri Valley; for thirty-two years a practitioner of Red Oak, Iowa; died at the home of his son in Metaline Falls, Wash., April 3, from carcinoma of the gall-bladder, aged 73.

Winfield Scott Sayler, M.D. Medical College of Ohio, Cincinnati, 1880; a member of the Ohio State Medical Association; who suffered amputation of the right leg on account of septicemia, recently; died a short time after from surgical shock, aged 59.

Addison McArthur Bourland, M.D. University of Nashville, Tenn., 1858; a veteran of the Mexican War, and of the Civil War in which he served as surgeon in the Confederate Service; died at his home in Fort Smith, Ark., April 23, from senile debility, aged 87.

Joseph Benson Fenwick, M.D. Harvard Medical School, 1872; once city physician of Chelsea and a member of the Massachusetts Medical Society; died at his home in Chelsea, from senile debility, hastened by a fracture of the hip several months before, aged 75.

Henry M. Connelly, M.D. Medical College of Indiana, Indianapolis, 1882; until 1900 a practitioner of Flatrock, Ind., and since that time a resident of Shelbyville, died at his home in that city, April 20, from cerebral hemorrhage, aged 62.

George Macaulay, M.D. Jefferson Medical College, 1886; acting assistant surgeon, U. S. P. H. S. since 1901; a member of the Association of Military Surgeons of the United States; died at his home in Jacksonville, Fla., April 21, aged 48.

James Richard Hull, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1880; for twenty-seven years a practitioner of Good Hope, Ill.; died in St. Anthony's Hospital, Rock Island, Ill., March 27, from nephritis, aged 52.

Simon Hubler, M.D. University of Pennsylvania, Philadelphia, 1879; a veteran of the Civil War; a practitioner of Herrick Center, Elyburg and Dunmore, Pa.; died at the home of his son in Scranton, Pa., April 24, aged 69.

Frederick Charles Johnson, M.D. University of Pennsylvania, Philadelphia, 1883; editor and proprietor of a daily paper in Wilkes-Barre for many years; died in Dallas, Pa., March 5, from paralysis agitans, aged 60.

Andrew S. Bonebrake, M.D. Jefferson Medical College, 1872; a retired physician of Baltimore and formerly a practitioner of Waynesboro; a veteran of the Civil War; died at his home in Baltimore, April 24, from nephritis, aged 65.

George Thomas Carson, M.D. Rush Medical College, 1896; a member of the American Medical Association; superintendent of the Chatsworth (Ill.) Sanitarium; died at his home in that city, April 26, from pneumonia, aged 52.

Frank Pierce Smith, M.D. Bellevue Hospital Medical College, 1877; a pioneer practitioner of Canton, S. Dak., but for the last two years residing on a ranch near Meadow, S. Dak.; died at his home, April 19, aged 60.

Emma Cornwell, M.D. Chicago Homeopathic Medical College, 1884; said to have been the first woman practitioner of Crawford County, Iowa; died at the home of her daughter in Denison, April 20, aged 73.

Clarence Albert Treuholtz, M.D. Cooper Medical College, San Francisco, 1897; captain, M. C., U. S. Army; a member of the American Medical Association; died at his station at Fort Bayard, N Mex., April 15, aged 36.

Jacob Kissel, M.D. Cornell University, New York City, 1906; formerly a member of the staff of the German Hospital, Brooklyn; died at his home in Glendale, Brooklyn, April 19, from peritonitis, aged 30.

Erasmus Darwin Loing, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1882; of Belvidere, Ill.; formerly of Brandon, Fla.; died in the Elgin State Hospital, April 14, from arteriosclerosis, aged 80.

Arthur S. Capron, M.D. Albany (N. Y.) Medical College, 1886; of Albany; a member of the American Medical Association; died suddenly in a hotel in that city, April 22, from heart disease, aged 63.

Joshua M. List, M.D. Cleveland University of Medicine and Surgery, 1875; president of the Citizens' National Bank of Evans City, Pa.; died at his home in that place, about April 21, aged 71.

Orlando Wood Sherwin, M.D. Dartmouth Medical School, Hanover, N. H., 1866; a member of the American Medical Association; died at his home in Woodstock, Vt., April 17, aged 75.

Garrard Fordyce, a veteran of the Civil War and for several years a practitioner of Livingston County, Ill.; died at his home in Ancona, February 10, from uremia, aged 78.

Frederick L. Preston, M.D. Hahnemann Medical College, Philadelphia, 1877; died at his home in Chester, Pa., April 21, from cerebral hemorrhage, aged 69.

William C. Hoover, M.D. Rush Medical College, 1869; died at his home in Haddon Township, Vigo County, Ind., about April 24, from senile debility, aged 83.

William Swango, (license, Kentucky, thirty years' practice, 1894); formerly of Maytown, Ky.; died at his home in Toliver, Ky., April 21, aged 69.

Joseph L. G. Masson, M.D. Victoria University, Coburg, Ont., 1890; died at his home in Terrebonne, Que., April 19, aged 49.

Milus L. Moody, M.D. University of Texas, Galveston, 1898; of Greenville; died in Bentonville, Ark., April 19, aged 43.

Leonard S. Byers (license, Indiana, 1885); died at his home in Seeleyville, April 24, from pneumonia, aged 62.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

THE DUKET "CONSUMPTION CURE"

About the time that Friedmann's press-agents were getting in their finest work, and when any news item—no matter how bizarre—regarding a consumption cure, made good newspaper "copy," the Chicago newspapers came out with sensational articles regarding a locally exploited "cure" for the white plague. Dr. Peter P. Duket of Chicago had produced, we were told, a "serum" that would cure tuberculosis. It is probable that Chicago newspapers would not have "fallen for" this canard, if it had not been given an artificial news value by the fact that the "cure" was financed by William Lorimer, who for a time occupied a seat in the United States Senate.

Newspaper notoriety seems to have been assiduously cultivated, and the "Duket serum" has been given publicity at stated intervals from the time of the first sensational articles in the early part of March until the present. The latest developments are that Mr. Lorimer has asked the governor of each state in the Union to send a representative to Chicago to watch the Duket "cure." Furthermore, he seems to have brought his influence to bear at Washington, for the papers state that an investigation of the Duket "cure" is to be undertaken by the United States Public Health Service.

So many inquiries have been received by THE JOURNAL regarding the Duket "serum" that we feel there is an urgent need of giving physicians such facts as we have already at hand. We have postponed publishing such matter as we have in the hope that we could have completed our investigations of this widely vaunted treatment. If conditions warrant it the result of these investigations will appear in due time.

Peter P. Duket was graduated by Hahnemann Medical College, Chicago, in 1893. He was licensed to practice in Ohio in 1896 on the presentation of his diploma, examinations for licensure not being required in that state until 1900. His name does not appear in the medical directories for the year 1896, but in 1900 he seems to have been at Bowling Green, Ohio. His name is again absent from the directories for 1902, 1904 and 1906, but appears in the issues of 1908, 1910 and 1912 under the city of Toledo. In 1902 Duket presented his diploma and obtained a license to practice in the state of Michigan. In June, 1911, and again in January, 1912, Duket made application for license to practice medicine in Colorado. It was refused. But he obtained a license to practice in New Mexico in January, 1912, the license being granted on presentation of diploma. While in New Mexico in 1912, Duket wrote to the Ohio State Board asking that board to endorse him to the Texas board. The Ohio board "inquired regarding his moral and professional standing," and as a result of this inquiry the secretary of the Ohio board "was instructed to refuse the endorsement." In January, 1913, Duket was granted license to practice in Illinois.

In connection with Duket's application to the Colorado State Board of Medical Examiners for licensure in that state, some interesting points were brought out. In the course of Duket's efforts to get a Colorado license, he appealed to a prominent Denver politician, who appeared before the board in Duket's behalf. During the course of the hearing, however, the politician himself seems to have become skeptical of Duket's good faith. Duket is said to have claimed at that time that he was curing tuberculosis with a "lymph" obtained from goats. The politician-friend asked Duket where he kept his goats. Duket is said to have hesitated and finally answered that he had one goat that he kept at a certain address in Toledo, Ohio. The politician had the chief of police of Denver wire the chief of police of Toledo to locate the goat. The Toledo police chief both wired and wrote that investigation indicated that Duket had not at that time and never had had any goats quartered at the address given.

DUKET'S FINDLAY SANATORIUM

In 1910 and 1911 Duket was operating what he called the "Tubercular Sanitarium Company" at Findlay, Ohio. He was using this concern as headquarters for the exploitation of his so-called serum. Business apparently being slow, Duket seems to have gone about the country drumming up patients. He issued a somewhat elaborate booklet describing the sanatorium and giving some indefinite information regarding his medicament. When in a town he would send out this booklet to prospective victims with a rubber stamp imprint on its title-page giving the name of the hotel at which he was staying and the time that he could be seen.

CLAIMS MADE FOR DUKET'S CURE

From this booklet we take the following quotations:

> "The only treatment that is to be considered is an intravenous treatment with an antiseptic lymph."
>
> "This antiseptic lymph is non-toxic, non-irritant and subdues the inflammation of the lungs."
>
> "In our treatment we use an antiseptic lymph which is a recent discovery and has been used by ourselves exclusively."
>
> "There is no other institution in the world that has the same antiseptic lymph."
>
> "It is not made from any product from tubercle bacilli."
>
> "When given intravenously, the action of the germs ceases. The patients are restored rapidly to their normal weight enabling the system to assist the antiseptic in destroying the germs and curing the disease."

With the usual assurance of exploiters of "consumption cures," Duket was not at all modest in the claims made for his "antiseptic lymph." Here is what he gave as the percentage of "cures" made by his "treatment":

Patients in the first stage, 90 per cent. of cures.
Patients in the second stage, 75 per cent. of cures.
Patients in the third stage, 50 per cent. of cures.

To a layman who wrote to the Findlay institution Duket replied in part:

> "The length of time required to be at the sanitarium or to effect a cure is 10 weeks. In some cases, of course, it may be longer than that.
>
> "We have made some very remarkable cures and hope that you will not delay in coming."

As this letter was not answered, a few days later another communication came from Duket, four pages in length, urging the prospective patient to come to Findlay. "The treatment is safe, and none but good results follow," the recipient of the letter was told. This does not seem invariably to have been the case. A tuberculous subject who had been to the Ohio State Sanatorium and returned greatly improved took Duket's treatment. Each injection was followed by a rise in temperature and chill and in a few weeks all the good that had been accomplished at the state institution was undone. The poor fellow died and his brother writes that neither the deceased nor he noticed any improvement when his brother returned from Duket's sanatorium.

Here then is another alleged cure for tuberculosis being foisted on the public by a man who has no scientific standing and who has had little or no scientific training. Nor is this all. Duket has succeeded in enlisting the help of men whose motives we need not question and whose influence is immeasurably greater than his own. Thus the potentialities for harm are enormously increased. At an early date we hope to be able to give our readers further details regarding the results of the "cure" itself. In the meantime, every physician will, in the interest of his tuberculous patients, do well to give them such facts as we have presented regarding this latest cure.

TIME, THE REVEALER

The matter quoted below is taken from a report of the evidence before the Select Committee on Patent Medicines, at present in session in London, which appeared in the *Chemist and Druggist*. The subject was led up to by a statement of the chairman of the committee regarding that part of the United States Food and Drugs Act which requires that "patent medicines" containing acetanilid should have the presence of that drug declared on the label. Mr. Lawson, whose testimony is given, is the manager of Daisy, Ltd., a concern whose products are referred to editorially in this issue. The italics are ours:

> "Mr. Lawson made an interesting statement on the subject as *told to him by the president of the Antikamnia Co.* He was informed that when the law was brought in in America it was decided that the acetanilid should be named on the label; the Antikamnia Co., to avoid that, stopped using acetanilid and substituted phenacetin. Later the American Board [Department] of Agriculture decided that phenacetin should likewise be disclosed, *but before that happened the company worked off their superfluous stock (containing acetanilid) on the European market.* Now Antikamnia contains phenacetin, but NINE-TENTHS OF THE ANTIKAMNIA TRADE IN THIS COUNTRY HAS BEEN BUILT UP ON PRESCRIBING BY MEDICAL MEN of the acetanilid preparation."
>
> In reply to a question from the chairman, we read: "Witness said *Antikamnia had been for years, and still is, advertised in the medical papers.* Moreover, the company have representatives calling on doctors and getting them to prescribe Antikamnia. The chairman was very interested in that statement, which was evidently new to him, and he wanted to know *what kind of arguments such representatives used to induce medical men to prescribe acetanilid as Antikamnia.*"

TONGALINE

Sodium Salicylate Sold Under a Fancy Name

Tongaline, manufactured by the Mellier Drug Company, St. Louis, is essentially a preparation of sodium salicylate. It is also said to contain tonga, though whether it does or not we have attempted neither to prove nor to disprove. Tonga is an inert substance whose history in medicine, while interesting, is by no means unique. The story goes that it was used originally by the native "medicine men" of the Fiji Islands and that it consisted of an infusion of the roots and barks of various plants indigenous to those islands. A supply of the crude drug was carried to England by a man who had lived for a short time in the Fiji Islands and it was placed in the hands of a retail house in London. This occurred about 1879. In 1880, two English physicians of repute published laudatory articles on the therapeutic value of tonga in neuralgia and rheumatism. This created a demand for the drug which extended to the United States. It was put on the market in this country by Parke, Davis & Co., who were proceeded against by the London house for using the name "Tonga," which the British house had registered as a trade-mark. Parke, Davis & Co. won the suit and continued to sell what it called a "Compound Fluid Extract of Tonga."

It was not long before the therapeutic inefficacy of tonga in neuralgia and rheumatism was made apparent and the demand for it gradually diminished. At the zenith of its popularity, however, the shrewd idea had been conceived of commercializing this popularity and of perpetuating the word "tonga." Thus was Tongaline born. The Mellier Drug Company realized the impossibility of creating any marked demand for a nostrum unless it had some real drugs in it—hence the presence of the salicylates. What the actual composition of Tongaline is, no one but the manufacturers know. At one time the following was given as the formula:

Fluid Tonga	30 grains
Extract of Cimicifuga Racemosa	2 grains
Sodium salicylate	10 grains
Pilocarpin salicylate	1/100 grain
Colchicin salicylate	1/500 grain

These amounts refer to the quantity of drugs in each fluidram of the preparation. Whether the nostrum still has this composition we do not know, but assuming that it has, it is quite evident that sodium salicylate is the essential and active ingredient.

Tongaline was first put on the market as a cure for neuralgia and rheumatism. Now the history of the nostrum business shows that it is commercially impracticable to establish a continued demand for a preparation recommended as a cure for only one disease. To be long-lived, a nostrum must be a panacea—it must be "good" for many things, if not for everything. It is not surprising then to find that Tongaline was not on the market long before it was being recommended for many and various pathologic states. Tongaline was even inferentially recommended for yellow fever during the epidemic of that disease in 1906. When criticized for such outrageous mendacity, the firm "hedged" and denied that it had intended to convey such an implication. Here are some of the claims made for Tongaline:

> "It cures rheumatism, neuralgia, grippe, gout, headaches, malaria, sciatica, lumbago, tonsillitis, heavy colds and excess of uric acid."
>
> "An infallible remedy for neuralgia, rheumatism, nervous headache, la grippe, gout, sciatica and lumbago."
>
> "Exercises a positive and rapid anodyne effect."
>
> "Has a peculiar affinity for poisonous and viscid secretions, which it eliminates *promptly and thoroughly*."
>
> "Is a *most* efficient agent in the treatment of all forms of malaria."
>
> "The ideal prescription for diseased conditions caused by habitual or periodic alcoholism"
>
> "For indefinite aches and pains."

Is it *conceivable* that any physician in his right mind would believe that the salicylates would be of value in all the multifarious conditions here named? Yet under the magic word Tongaline the medical profession has for years been prescribing this mixture and, worse yet, the public has been paying for it. Is there any excuse for such unscientific empiricism? If not, how long will our profession tolerate it?

Some physicians who are surely familiar with the uses and limitations of the salicylates, instead of prescribing them in definite quantities and under their own names, prescribe nostrums containing them, such as Tongaline and Hymosa. Knowing the action and value of acetanilid, phenacetin, etc., some men prescribe these useful drugs in uncertain amounts under the names of Antikamnia, Pas-Avena, Ammonol, Phenalgine and what not. Instead of prescribing hexamethylenamin, they make their patients pay fancy prices for the same drug under the names Uriseptin, Formin, Cystogen, etc.

The economic phase of this problem is bad enough in all conscience but it is not the worst. There is the much greater evil of prostituting the science of medicine and setting back the clock of therapeutic progress. Such things as these tend utterly to discredit the medical profession in the minds of thinking laymen. Within the past few weeks British physicians must have been chagrined by the facts brought out at the "patent-medicine" inquiry now going on. At least they would have been chagrined if their medical journals had had the courage to report the evidence as it was given at the inquiry. The chairman of the investigating committee expressed surprise when he learned that physicians were in the habit of prescribing such a well-known drug as acetanilid under a fanciful name and with no knowledge of the composition of the product. The chairman doubtless has many other surprises coming. Possibly one will come when he learns that the salicylates are prescribed under the name of a worthless and inert drug.

ELIXIR OF TONGA COMPOUND.

Keeping a Dead Drug Alive by Artificial Means

The exploitation of Tongaline, just described, brings to light another evil of the nostrum business that is little appreciated. Tonga itself is therapeutically dead. But the name "tonga" still has commercial possibilities. This is because the extensive advertising of Tongaline has unconsciously kept alive in the minds of the medical profession a feeling that tonga has certain valuable—if mysterious—properties. As a result practically every large pharmaceutical house puts out a tonga mixture in the hope of reaping some financial benefit from the advertising of Tongaline. This illustrates once more the evil influence that proprietorship in medicine has on the science of therapeutics. If Tongaline or some similar mixture containing, or supposed to contain, tonga were not advertised for the next five years, tonga would be forgotten and relegated to the place it belongs—the therapeutic scrap-heap. But the power of advertising is sufficient to keep this utterly valueless drug alive just so long as it is sold in mixtures which contain in addition to the inert tonga some really valuable drugs.

Most of these tonga mixtures put out by pharmaceutical manufacturers appear in the form of compound elixir of tonga. These elixirs are claimed to contain tonga; whether they do or not, no one but the makers know. They also are claimed to contain the salicylates, cimicifuga, small amounts of colchicum and pilocarpin, and in some instances also acetanilid, gelsemium and potassium iodid. The name in most cases is deceptive, or at least misleading, in that the word "tonga" is emphasized while the important drug in the mixtures is given secondary consideration. We have arranged in tabular form some of the various tonga preparations and the composition that is claimed for them. Similar lists could be made of other equally unscientific mixtures that are put on the market by firms, which while professing to have the interest of scientific medicine at heart, are willing to prostitute pharmacy for profit.

Tongaline and some of its many imitations.

TONGA PREPARATIONS AND THE COMPOSITIONS CLAIMED FOR THEM

(Claims for Composition (Grains or Minims in Each Fluidounce)

Preparation and Manufacturer	Tonga	Cimicifuga	Sodium Salicylate	Pilocarpin Salicylate	Pilocarpin	Colchicin Salicylate	Wine of Colchicum	Colchicin	Acetanilid	Tr. Gelsemium	Fl. Ex. Hydrangea	Potas. Iodid	Lith. Benzoate
Elixir Tonga Compound—Parke, Davis & Co.	64	16	40	8/100	.....	8/500	..	.....	...	..	..	..	..
Elixir Tonga Compound—F. Stearns & Co.	60	3¾	68	1/128	.....	1/64	..	.....	...	..	..	..	..
Elixir Tonga Compound—Wm. R. Warner & Co.	120	16	80	8/100	.....	8/500	..	.....	...	..	..	..	..
Elixir Tonga Compound—Eli Lilly & Co.	120	16	80	.....	8/100	.....	..	8/500	...	..	..	..	..
Elixir Tonga [illegible] Bros. & Co.	15	16	40	.....	8/100	.....	..	8/500	...	..	..	..	..
Elixir Tonga [illegible]emical Co.	4	60	14	.....	8/100	.....	..	8/500	8	..	..	..	..
Elixir Tonga [illegible] Baker & Co.	4	60	14	.....	8/100	.....	..	8/500	5½	16	..	..	..
Elixir Tonga [illegible] S. Merrell Chem. Co.	120	16	40	8/100	.....	8/500	..	.....	...	..	..	..	..
Elixir Tonga & Salicylates—Sharp & Dohme	120	16	30	8/100	.....	8/500	..	.....	...	..	8	4	16
Tonga Salicy[illegible] K. Wampole & Co.	20	0	40	1/10	.....	.....	40	.....	...	..	..	..	..
Tongaline [illegible] Drug Co.	240	16	80	8/100	.....	8/500	..	.....	...	..	..	..	..

Correspondence

Healthy Employees in Kitchen and Dining-Room

To the Editor:—In The Journal, April 26, p. 1310, appears a news item headed "Waiters Must Be Healthy," which mentions the safeguards against communicable diseases enforced by the Pennsylvania Railroad Company among its employees in dining-car and restaurant service. This is so fully in line with what I have been urging in St. Louis for a number of years that I desire to enlarge somewhat on the topic, as it is of immediate hygienic concern to every person who eats in public or semipublic places, as dining-cars, clubs, hotels and restaurants.

Several years ago a movement was begun here for the formation of a local club, the declared purpose of which was the advancement of wholesome civic conditions, general and special. On joining the club I conceived the occasion opportune to address a letter to its president, calling attention to the importance of starting right and with clean hands as concerned kitchen help and dining-room service, by requiring that every proposed employee should undergo a strict physical examination, to be conducted preferably by the health department as a part of its regular work, and that no one should be employed who could not present from that official source a certificate attesting the clean, sound personal health of the applicant. It was further advised that every person thus employed should be subject to supplemental tests as might be provided in rules to be framed later, and that employees of this selected class should receive a higher wage than those not thus tested, if the latter were taken into club service.

These suggestions seemed to find favor at first; but later, as is common, lions were found in the way, or what appeared as such—most likely on close examination they would have been found to be merely stuffed felines rather the worse for moths—and nothing was done. Some time later when a syphilitic waiter appeared to take an order for luncheon, I thought that the limit had been reached, and my resignation was soon sent in and accepted.

Such an experience is not exceptional, as any physician with open eyes may prove who frequently eats in public places, and the danger may be greatest in establishments of most pretentious claim in which sanitary suspicion would be lulled by fine appointments. It is not an uncommon occurrence in some of the most exclusive eating concerns for the fingers of the waiter to visit his mouth when supplying a napkin to a diner; and rolls, cutlery, plates, etc., are served with the same unsterile fingers. Tuberculosis, syphilis, diphtheria, cancer and other dangerous and revolting ailments affect the mouth and air-passages often in concealed form; hence the imperative hygienic need for barring from table and kitchen service among self-respecting people, by means of a searching medical examination, every person found thus affected, esthetic considerations weighing as well as those that are prophylactic and hygienic.

George Homan, M.D., St. Louis.

Need for a Physician in the Mountains of North Carolina

To the Editor:—Far up in the mountains of North Carolina is a little hospital, founded and run by a trained nurse, Miss Lydia Holman, who for twelve years has quietly worked among these mountain people, not only bringing to them medical aid and care, but also teaching modern sanitary improvements, hygiene and social betterment. When the railroad ran its line through Altapass, a small building was erected for use during its construction, and after the completion of the road, seeing the splendid work Miss Holman was doing there, the railroad gave the building to her to use as a hospital.

Miss Holman's work covers a large area, patients traveling many miles to reach the little hospital, or sending for her in all sorts of weather, night or day, so that her work has really become that of a physician as well as a nurse, because she could not refuse medical aid when it was needed and there was no one else to give it. This even resulted at one time in her arrest for practicing medicine. Finally a doctor was found, but after a year or two of work down there he has left, and again Miss Holman, with the help of one or two nurses, is bearing the immense burden of this work.

Patients with typhoid (of which a large number of these people die), pneumonia, tuberculosis, all sorts of surgical cases and even the victims of a small-pox epidemic have been cared for by Miss Holman. One of the first things which called her attention to the great need of medical aid in this region, was a report of the terrible death-rate among the mothers, and the spectacle of babies sick and deformed for life because they had not had proper hospital treatment at birth.

For many months she has been looking for a physician to help her, and brave and plucky as she is, no woman can possibly keep on doing the enormous work she is doing and taking the great responsibility that she is taking without ultimately breaking down under the physical strain. This is an opportunity for some man to do a wonderful good in a community of our own white citizens, a race of people descended from the Scotch, Irish and Germans who fled to these mountains during the Revolution. They are self-respecting and independent, and although living such isolated lives far from civilization, when given the chance, they respond readily to those influences which make toward more enlightened social conditions.

It is not a place in which a man will gain general reputation, wealth or public praise, but to one who cares more about helping others than about worldly gain, this is an opportunity the possibilities of which cannot be exaggerated. The income would probably be about a hundred dollars a month and any fees a physician might make at the small hotel there. Of course only a man with the ability and training to cope with every sort of disease and emergency would be fitted for such a position; but when we think of all the fine medical schools scattered throughout the country, it seems as if there ought to be no trouble or delay in securing the right sort of physician.

We hear of many men willing and anxious to go to China, India and other lands as medical missionaries, or of physicians gladly volunteering to go to Labrador with Dr. Grenfell; surely there is one who will find his work in helping our own people—Americans who live such lonely, desolate lives, growing old and dying before their time because of the lack of teaching as to proper sanitary and hygienic modes of life, as well as aid in sickness. Among all our young physicians there must be a man who will respond to Miss Holman's call.

Agnes Willard Bartlett, 21 Pierrepont Street, Brooklyn.

Report of Cases of Wood-Alcohol Poisoning

To the Editor:—In The Journal of April 19, 1913, p. 1247, a query was inserted concerning articles on wood-alcohol poisoning. A report of four cases that I have treated may be of general interest.

In 1910 four adult male Winnebago Indians obtained 4 ounces of wood-alcohol at a drug-store on the pretense that it would be used as a liniment, but they drank the full quantity. Two of them soon became comatose and died on the third and fourth day after. The third was comatose three days and within a month had recovered except that his vision was completely lost. The fourth, who evidently drank only a small quantity, suffered no ill effects.

Another case occurred in 1912. A mixed-blood Menominee Indian obtained a pint of wood-alcohol from the matron at the Menominee Indian Hospital, saying that he wanted it to clean his paint brushes. He drank only a small part of this and continued his work for two days; on the third day he died after hours of excruciating pain in the epigastric and temporal regions.

All three deaths seemed to be due to respiratory suppression.

Edward L. Swadener, M.D., Keshena, Wis.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

EXTRA-UTERINE AND INTRA-UTERINE PREGNANCY COMBINED

To the Editor:—The following case suggests the need of better knowledge of the possibilities of a combination of extra-uterine and intra-uterine pregnancy:

Mrs. X., aged 25, had been married three years. She had never been pregnant. Menstrual trouble began at 18 years of age, painful menstruation, scanty, occurring every twenty-four days. She had been troubled with cold hands and feet. Since marriage she had had pains in the back in the lower lumbar region and pain and soreness in the right ovarian region. When I saw her she had been taken with cramps some time before. There was severe hemorrhage; otherwise she was comfortable. She had been menstruating regularly and did not know that she was pregnant. She was taken to the hospital and curetted. A fetus corresponding in size to a three months' pregnancy was removed. After the curettage she was in good condition, considering the amount of hemorrhage she had had, for about twelve hours; then she suddenly developed symptoms of internal hemorrhage and died before I could reach the hospital. At necropsy the outer end of the right tube was found converted into a sac which had ruptured and a 3-months-old fetus was lying in the clot of blood. N. L. L.

Answer.—The symptoms of ectopic pregnancy and abortion are quite similar, and the differential diagnosis should be carefully made in all cases in which abortion is suspected. Failure to observe this rule has frequently led to currettements or other operations for incompleted abortions when the condition was a tubal pregnancy. Curettement of the uterus with a pregnant tube generally leads to rupture of the tubal sac with serious or immediately fatal results. The possibility of the coexistence of an extra-uterine and an intra-uterine pregnancy makes care in diagnosis and caution in treatment all the more necessary.

Careful bimanual examination should reveal a tubal sac or make its existence suspected. Any suspicion of an ectopic pregnancy is a contra-indication to a curettement. If the diagnosis is not sufficiently certain to warrant a laparotomy, the patient should be kept absolutely quiet in bed until certainty can be reached.

In a case like the one reported, when the curettement for a uterine abortion is undertaken, it should be possible to diagnose the condition of the adnexa while the patient is anesthetized. Failure to do so would suggest that the bimanual examination before or during the operation was neglected, and this would indicate a faulty technic. Manipulating a curet while holding the cervix only with a volsellum forceps is dangerous. The fingers should be used as the curet whenever possible, and this can be done only by pushing down the uterus from above over the finger in the cervix. When the cervix is insufficiently dilated this will not succeed, and the curet must be used. Always, however, the size, position and consistency of the uterus must be determined by bimanual examination. With such an examination, having the patient anesthetized, it should be impossible to overlook a tubal sac as large as that in the case reported.

TECHNIC OF BLOOD EXAMINATION FOR SUGAR

To the Editor:—I have read with interest the leading editorial, "The Sugar Content of Human Blood," in The Journal (April 19, 1913, p. 1228). As I have at present both time and inclination, I should like to follow this matter up in my own little laboratory—one that I have just fitted out. Can you tell me where I may find the details of the technic in English? Or might it not be worth your while to publish the technic in The Journal, as perhaps others, too, would like to see it?

Robert E. White, M.D., Oshkosh, Wis.

Answer.—The blood is examined for sugar in the same manner as urine, but owing to the small amount present more delicate methods should be chosen and the protein constituents must be removed before the test is made. The more recent methods of removing proteins are by means of colloidal iron with the addition of sodium sulphate or the use of iron alum. The following is given by Cambridge in his recent work on glycosuria:

A weighed and measured quantity of blood is freed from albumin by boiling with sodium sulphate, and filtering. The precipitate is well washed, and the quantity of sugar in the filtrate is estimated. A certain amount of sugar is carried down by the precipitate, and unless the blood is quite fresh the action of the glycolytic ferment may cause serious error.

For clinical purposes the sugar in the peripheral bloodstream may be estimated by collecting 5 c.c. and at once mixing it with 100 c.c. of absolute alcohol, filtering off the precipitate, washing with hot water several times, evaporating the combined filtrates on a water-bath to about 0.5 c.c., and estimating the sugar in this. The estimation may be carried out by titration with alkaline safranin, or by Lohenstein's saccharimeter. If a large amount of blood is available, titration with Fehling's solution, etc., or polarimetry, may be employed.

Wacker has described a colorimetric method by which it is said that sugar can be accurately estimated in such small quantities of fluid as 0.3 or 0.4 c.c., with an error of but 0.01 per cent. The protein of the blood is removed with iron alum and sodium carbonate. To the filtrate phenylhydrazin-p-sulphonic acid and sodium hydroxid are added, and the red color is compared with a color scale made with the same reagent and a standard solution of dextrose. The figures given for normal blood by this method are higher than those found by previous observers.

The following method is described by J. J. R. Macleod in his work, "Diabetes: Its Pathologic Physiology":

A great improvement over older methods has recently been introduced by Rona and Michaelis, who have shown that the proteins of blood, but none of the sugar, can be precipitated by shaking the laked and diluted blood with colloidal ferric hydroxid (dialyzed iron), and then adding a small amount of an electrolyte, such as sodium sulphate.

CALCIUM HYPOCHLORITE IN WATER PURIFICATION

To the Editor:—When was calcium hypochlorite first used in the treatment of a water-supply?

W. A. Womer, M.D., New Castle, Pa.

Answer.—Although hypochlorite had been used as an emergency measure at Maidstone, England, in 1897, the calcium hypochlorite treatment as a practical process dates from 1908, when it was used by Mr. G. A. Johnson of New York for water purification at the Chicago Stock Yards. Previous attempts to purify the water of Bubbly Creek by a process of filtration in connection with the use of copper sulphate had been only partially successful. As the result of a lawsuit brought by the City of Chicago against the Union Stockyards Company, chlorinated lime (chlorid of lime) was substituted for the copper sulphate by Mr. Johnson's advice. The amount of chlorinated lime used was 45 pounds per million gallons, and this treatment reduced the number of colon bacilli in the sewage-laden water of Bubbly Creek below the number found in the Chicago city water-supply. Soon after the spectacular success of the Bubbly Creek experiments Mr. Johnson introduced the treatment for the water of the Boonton Reservoir at Jersey City and since then the method has been widely applied.

LIST OF FOREIGN PUBLICATIONS

To the Editor:—Where can I find the names and prices of foreign medical journals? Your American Medical Directory gives an excellent list of those in the United States and Canada, and I find the names of many foreign ones in your Current Medical Literature Department, but not the price. P. R. S.

Answer.—A good list of foreign medical journals, with prices and places of publication, is now appearing in our "Guide to Current Medical Literature"—a pamphlet containing the semi-annual index of The Journal and other matter to fit it for use as an index medicus. This guide is issued twice a year at 50 cents a copy.

THE PURSUIT OF EMPTY HONORS—THE ITALIAN PHYSICO-CHEMICAL ACADEMY

To the Editor:—I have received a notice of nomination to the Académie Physico-Chémique Italienne, located at Palermo, Italy, and before signifying my acceptance, would like to know the standing of this society. Please give me the desired information.

W. A. Shepherd, M.D., Richmond, Va.

Answer.—This fake "scientific" organization—one of a number of foreign diploma-mills—was discussed in The Journal, Oct. 21, 1911, pp. 1373 and 1380, and March 8, 1913, p. 770. We congratulate our correspondent on his caution in writing us. We fear, however, that not all members of the profession are so careful.

IS CASTOR OIL AN OXYTOCIC?

To the Editor:—About twenty years ago I was told by an old negro midwife, if I wanted my labor patients to have an easy time during confinement, to give them castor oil every day for a few days before the expected event. Later I saw a short note in some medical publication, the name of which I cannot recall, stating that castor oil made labor easier.

In the seventh edition of Hare's "Practical Therapeutics," published in 1898, is found the following: "Previous to parturition it [castor oil] has been largely used to relieve the bowels of fecal matter, and is said by old practitioners to make labor easier than if any other purge is used."

After reading what Hare said about castor oil I began to give to all pregnant women coming under my care the following instructions about taking it: If they wished to have an easy time during labor, they should begin about two weeks before the expected time and take 2 teaspoonfuls of castor oil on retiring at night, and on the day labor began they should take 2 tablespoonfuls. Very few refused to take it. It was noticed, particularly in first labors, that the first stage was very short, the cervix rapidly and painlessly dilating. A more extended experience since confirms this action of castor oil. In first labors the cervix is frequently found fully dilated in from one to three hours.

St. Cloud Cooper, M.D., Fort Smith, Ark.

Answer.—The popular opinion expressed by our correspondent to the effect that castor oil given before parturition will make labor easier is noticed by Hare, it is true, but not at present with approval. We have not been able to consult the seventh edition of Hare's "Therapeutics," but in the ninth and following editions the quotation is not complete. The statement in full is as follows: "Previous to parturition it has been largely used to relieve the bowels of feces and is said by *some* practitioners to make the labor easier than when other purge is used. This is doubtful."

The National Standard Dispensatory (Hare, Caspari and Rusby) says: "The idea that it [castor oil] decreases the severity of labor more than any other purge, if given previous to parturition, is erroneous."

The experience of our correspondent has been very favorable and apparently differs from that of others. In drawing conclusions from such observations we should consider: (1) that a large number of cases must be observed in order to make conclusions safe; (2) the psychic impression on the woman and the personal equation of the physician must be taken into consideration. Castor oil, on account of its mildness, is used much more frequently in pregnancy than other cathartics. Without doubt it may do good when judiciously used, but it should not be relied on as oxytocic. The cleansing of the bowel may have had something to do with the ease of labor in the cases observed.

A CASE SUGGESTIVE OF CREEPING ERUPTION

To the Editor:—I wish to report the following peculiar case: The patient is a healthy and particularly robust young man. About six months ago he felt a burning sensation in the inguinal region and on examining the skin he found a red streak 1½ inches long and 1/16 inch wide. One end of the streak was 2 inches above the pubis and that distance from the median line, and followed a crooked course diagonally outward. When I saw him again three months ago, the red streak was ¼ inch wide and 4 inches long. At present a depression can easily be felt on passing a finger over the red streak, but the epidermis does not fall into the cavity. The cavity is as wide as the streak, apparently as deep as the thickness of the skin, and as long as the streak. To the finger it feels as if a goose-quill could easily be put into the cavity. There seems to be no fluid underneath, but the epidermis looks as if something had burrowed beneath it. There is no involvement of the lymph-nodes, although the streak appears as if it had followed the course of a lymphatic. There has never been any sore to indicate a point of infection. There is no tenderness and the patient has experienced only the slightest sense of heat or burning. Three months ago the same symptom set up on the opposite side, and recently another line has started about an inch from the first and parallel with it. At present the earlier two lines are about 4 inches long. It seems to take about three months for them to become as large as the largest and they seem to be growing a little wider. When the epidermis is raised directly over, or including, the red streak, it presents the same appearance as epidermis of other parts, only it is pink.

J. L. Tracy, M.D., Toledo, Ohio.

Answer.—The account given strikingly suggests a case of creeping eruption. This condition is said to be due to the larva of a dipterous insect of the genus *Gastrophilus.* The larva is said to be located a quarter of an inch in advance of the active part of the line and in the cases reported it has advanced at the rate of an inch or more a day. In this respect the case described by our correspondent appears to be peculiar in its slow progress. Some observers have failed to find the larva. According to Sampson-Himmelstjernæ the larva may be seen with a hand-glass as a black speck by pressing the blood out of the part with a flat glass. The wanderings of the larva have been known to continue for over two years. After a time the color of the skin fades out. The rational treatment is to destroy the larva, but hypodermic injections of antiseptics have usually failed to kill it. Hutchins suggests first the injection of cocain solution followed by the injection of one or two drops of chloroform, the needle being inserted behind and pushed forward in the burrow to the probable location of the parasite.

Cauterizing the area just in advance of the end of the line or excising it has been recommended. Stelwagon succeeded by cataphoretic application of a solution of mercuric acid, 2 grains to the ounce combined with the application of a drop of nitric acid to a point just beyond the end of the line, a point which he found with the aid of a magnifying glass.

LITERATURE ON THE SEPTIC TANK AND SEWAGE-DISPOSAL PLANTS

To the Editor:—I want information relative to the success, efficiency and practicability of septic tanks or sewage-disposal plants. Can you refer me to sources of authoritative information? I shall appreciate any help you may be able to give me.

G. F. Ambrose, El Dorado, Kan.

Answer.—The following should prove of value:

Baker, E. F.: Sewage Disposal: The Septic Tank. *Ill. Med. Jour.,* September, 1907; abstr., The Journal, June 22, 1907, p. 2150.

Morre, G. T.: Sewage Purification by Septic Tank and Chemical Precipitation, The Journal, Aug. 24, 1907, p. 677.

Holmes, B.: The Septic Tank in Sewage Disposal, *Lancet-Clinic,* Nov. 13, 1909.

The Septic Tank, editorial, The Journal, Dec. 10, 1910, p. 2067.

The Rise and Fall of the Septic Tank, editorial, The Journal, Nov. 5, 1910, p. 1650.

The Septic Tank, correspondence, The Journal, March 11, 1911, p. 761.

The Septic Tank, editorial, The Journal, Feb. 4, 1911, p. 355.

Booker, W. H.: Residential Sewage Disposal Plants, *Texas State Board of Health Bulletin,* September, 1912.

Baker, M. N.: Sewage Purification in America, 1893.

Dibden, W. J.: Purification of Sewage and Water, ed. 3, 1903.

Morse, W. F.: Collection and Disposal of Municipal Waste, 1908.

Raikes, Hugh P.: Design, Construction and Maintenance of Sewage-Disposal Works; Being a Practical Guide to Modern Methods of Sewage Purification, London, Constable, 1908.

Cosgrove, J. J.: *Sewage Purification and Disposal,* Standard Sanitary Manufacturing Company, Pittsburgh, Pa., 1909.

Trentham, W. H., and Saunders, James: Modern Methods of Sewage Disposal; a Practical Handbook for the Use of Members of Local Authorities and Their Officials, 1909.

Folwell, A. Prescott: Sewerage, the Designing, Construction and Maintenance of Sewerage Systems, 1910.

Watson, Hugh S.: Sewerage System, 1911.

Gerhard, W. P.: Water-Supply and Sewage Disposal of Country Homes, published by Van Nostrand Co., New York, price, $2.

Fuller, G. W.: Sewage Disposal, published by McGraw-Hill Book Company, New York, price, $6 (reviewed editorially in The Journal, Aug. 3, 1912, p. 372).

REACTION FOR ALBUMIN IN THE SPUTUM

To the Editor:—Please give information on the albumin reaction in the sputum, its value and method of using it, or tell me where I can find it.

Albert S. Barr, M.D., Greenville, Mich.

Answer.—The reaction for albumin in sputum is made by the ordinary tests for albumin in the urine. The diagnostic importance depends on the fact that albumin is most commonly found in pneumonia and in pulmonary tuberculosis. A negative finding was thought at one time to be sufficient to exclude tuberculosis. Several authors, however, have shown that albumin may not be present in the sputum of true pulmonary tuberculosis. It is frequently seen in benign affections, especially if the sputum contains occult blood. The presence of albumin should therefore be considered as only confirmatory of other tests.

The following literature may be referred to:

Gantz, M., and Hertz, R.: Differential Importance of Albumin in Sputum, *Presse méd.,* Jan. 18, 1911; abstr., The Journal, March 4, 1911, p. 702.

Roger, H.: Albumin Reaction in Sputum, *Bull. de l'Acad. de méd.,* April 11, 1911; abstr., The Journal, May 27, 1911, p. 1619.

Ferreira, C.: Albumin Reaction in Sputum in Early Diagnosis of Tuberculosis, *Presse méd.,* April 19, 1911; abstr., The Journal, May 27, 1911, p. 1621.

Roger, H., and Lévy-Valensi: Albumin Reaction in Pulmonary Tuberculosis, *Presse méd.,* May 20, 1911; abstr., The Journal, June 24, 1911, p. 1908.

Lévy-Valensi, J.: Albumin Test in Tuberculosis, *Med. Press and Circular,* May 15, 1912; abstr., The Journal, June 22, 1912, p. 2002.

Fullarton, R. S.: Albumin Reaction of Sputum in Pulmonary Tuberculosis, *Glasgow Med. Jour.,* July, 1912; abstr., The Journal, Aug. 17, 1912, p. 586.

Works, B. O.: The Quantitative Examination of Albumin in the Sputum in Pulmonary Tuberculosis, The Journal, Oct. 26, 1912, p. 1537.

Pindborg, J.: Albumin in Sputum, *Hospitalstid.,* Oct. 23, 1912; abstr., The Journal, Nov. 30, 1912, p. 2014.

Medical Economics

This Department Embodies the Subjects of Post-graduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

LAWS PROHIBITING FRAUDULENT ADVERTISING

Bills have recently been introduced in various states to prohibit the advertising of treatment for certain diseases. As was shown in The Journal, last week, this is in accordance with the general trend of the times. From an early day nearly all the states have sought to control, if not absolutely to suppress, such advertising.

Legislation for this purpose may be divided generally into two classes. In the first of these, the state forbids this type of advertising, enforcing compliance with its mandate by criminal prosecution. In the second, the same result is attempted by authorizing a revocation of license, either directly by the board of medical examiners acting in a quasi-judicial capacity, or by the board acting as a relator before a court of competent jurisdiction.

These laws have gone through a process of evolution. At first the enactments simply permitted a revocation of license for "dishonorable or unprofessional conduct," adopting a phrase familiar to physicians and thereby forbidding all acts which would be included under such a definition. The courts seemed a little dubious as to the construction of the phrase; consequently an attempt was next made to define "unprofessional conduct" specifically. Finally, the state stepped in and made certain acts misdemeanors, thus in some jurisdictions seemingly allowing two punishments for the same offense.

Examination of the statutes of the several states shows that the laws at present represent all three of these stages. As an illustration of the first class, the laws of Alabama, the District of Columbia, Indiana, Louisiana and Maryland[1] may be taken. These five statutes, while not exact duplicates of each other, are sufficiently similar in effect to be grouped together. All permit a revocation of a license for "unprofessional conduct," this being the only term used under which a physician might be held for "advertising." These early laws made no attempt to limit the offense strictly. Apparently at the time these laws were adopted, the spirit of commercialism and the desire to amass great wealth were not so prominent; consequently the general spirit of the profession was sufficient to control this tendency. The early cases show not a few prosecutions of empiricists and fraudulent herb-doctors.

The next step came in due time. The existing laws of Illinois, Iowa, Kentucky, South Carolina, New Mexico, New York and Texas[2] would seem to indicate a desire to define fraud more accurately. These laws speak of "false or fraudulent representations";[3] "likely to deceive or defraud the public;"[4] "convicted of illegal practice;"[5] "who offers . . . . to violate any provisions of Sect. 318;"[6] "conduct of a character likely to deceive or defraud the public."[7] This language is capable of a broad construction and would seem quite sufficient to warn the man of average intelligence that fraud and deceit is unprofessional conduct. And yet in Matthews vs. Murphy[8] the court holds the language of the Kentucky statute given above quite insufficient. "The statute does not advise the physician in advance what act or acts may be in violation of its provisions," says the court. Again, "As the statute does not advise him beforehand as to what is unprofessional conduct he could not knowingly or intentionally be guilty of it." Forsooth! Every physician knew and knows the meaning of "unprofessional conduct" as well as a merchant knows his "negotiable instruments." To declare a statute of this nature, or a portion of it, unconstitutional because the primal rules of pleading cannot be complied with is *reductio ad absurdum*. This case is not a precedent and has been relegated to oblivion whenever cited.

Whether or no these laws be constitutional is one question; the result produced under them is quite another. The growth of commercialization, the rapid strides which medicine has taken, the influx of large numbers of poorly trained men into the profession each year, and, most important of all, the development of this field by unscrupulous business men, all seemed to require legislation of a more repressive character. Oklahoma, Nevada, North Dakota, Tennessee, Utah, Washington and Wisconsin all evidence this type of legislation.[9]

These statutes were aimed specifically at advertising and all permitted the board of medical examiners or other authorities to revoke a license on practically the same grounds. These are:[10]

1. Conviction of felony or crime[11] involving moral turpitude.
2. Negligent or ignorant malpractice resulting in permanent injury or death of a patient.
3. The obtaining of a fee either directly or indirectly either in money or in the form of anything of value or in the form of financial profit either as a personal compensation or as compensation, charge, profit or gain for an employer or any other person or persons on the representation that a manifestly incurable, sick, diseased or injured condition of any person can be permanently cured.
4. Causing the publication, circulation, exhibition or display, publicly, of an advertisement, notice or information of any medicine or means whereby the monthly periods of women can be regulated, or the menses, if suppressed, can be reestablished, or whereby abortion can be accomplished.
5. Causing the publication, circulation, exhibition or display publicly of any advertisement relative to the treatment, alleviation, palliation, cure or prevention of any disease, weakness or condition of the sexual organs.

These laws, failing either in that they were too sufficiently specific, or because the administration thereof was somewhat lax, pointed the way for the statutes of Colorado, Minnesota and Wisconsin and to the bills submitted to the present legislatures in Illinois, Ohio and Oregon.[12]

The idea dominating these laws is to make the act of advertising certain diseases or methods of treatment in any manner, in any periodical, excepting perhaps medical journals and the like, and the publishing of such advertising, a misdemeanor, and affixing a penalty of either $100, or a jail sentence of six months, or perhaps both. The Minnesota law provides that the advertising shall *per se* constitute a prima facie case against the accused, thereby shifting the burden of proof; and the Colorado statute stipulates that the act of the agent in the general scope of his employment is the act of the principal. The Wisconsin statute is worthy of notice because of its careful wording and the moderate penalty. It is submitted that wrong conduct is not always prevented by reason of a heavy fine; rather certainty of punishment is the more to be desired in drafting these measures. To that end the statute must so read that the indictment can describe a definite act forbidden; this done the charge and the proof will the more readily and nearly conform. The fault with a vast number of such measures is that the prosecutor cannot lay an indictment under them with any degree of certainty.

The bill introduced in Illinois may perhaps be criticized for these reasons, and also perhaps that it does not go quite far enough. The idea embodied in the draft is highly commendable, but such laws must be capable of quick results. The bill must be so drafted that a motion to quash an indictment drawn under it cannot be sustained, or its constitutionality questioned on the ground of uncertainty; the finished law must be one that can be economically enforced by the state.

The Illinois bill, the latest effort to regulate objectionable advertising, is brief and simple. The text follows:

Section 1. Whoever shall advertise in any newspaper, publication, magazine, periodical, pamphlet or by circulation or form letter, or cause to be distributed any advertisement in any form whatsoever, to restore manly vigor, treat and cure lost manhood, stricture, varicocele, hydrocele, diseases of the genito-urinary organs, or any venereal disease, or to cure cancer or tuberculosis, shall be deemed guilty of a misdemeanor and upon conviction thereof shall be punished by a fine not exceeding $100 or by imprisonment not less than one month nor more than six months, or both.

Section 2. Any owner or managing officer of any newspaper, publication, magazine or periodical in whose paper shall be printed or published such advertisement as is described in this act shall be guilty of a misdemeanor and upon conviction thereof shall be punished by a fine not exceeding $100 or by imprisonment not less than one month nor more than six months, or both.

References

1. Ch. 39 Ala. Code, Art. 1, Sec. 1637; P. A. of D. C., No. 174, Sec. 10; Ind. L. A., 97, p. 255, Sec. 5; M. P. A. La., Act 49-244-16 of 1894, 1908, 1912, Sec. 15; Md. L. Art. 43, Sec. 65.

2. R. S. Ill. M. P. A., Sec. 6; Ch. 17, Tit. 12 Iowa Sec. 2578; Ky. M. P. A. Sec. 11; S. C. M. P. A. Sec. 5 A; N. M., M. P. A., Sec. 6; Ch. 344 N. Y., Par. 11; Tex. M. P. A Sec. 12.

3. Ill. M. P. A. Sec. 6.

4. Ky. M. P. A. Sec. 11.

5. So. Car. M. P. A. Sec. 5 A.

6. Ch. 344 N. Y. Code. Par. 11.

7. Texas M. P. A. Sec. 12.

8. 23 Ky. 750; 63 S. W. 785, 54 L. R. A. 415.

9. Okla. S. B. 189, Sec. 13, approved June 10, 1908; Nevada M. P. A. Sec. 12; No. Dakota M. P. A. Sec. 11; Ch. 78 Tenn. Sec. 15; Ch. 93 Utah Sec. 1735; Ch. 192 Wash. Sec. 144; Ch. 196 Wis. Sec. 1436, e, f.

10. North Dakota M. P. A. Sec. 11.

11. *Sic* in original; "felony or misdemeanor" is suggested as more accurate.

12. Colorado H. B. 150 approved April 3, 1907; Ch. 162 Minn. Acts 1909; Ch. 156 Wis. laws 1907, Sec. 4590 u; Senator Hurburgh's bill, Ill. Leg. April 24, 1913; Oregon S. B. 300; Ohio H. B. 51.

Society Proceedings

COMING MEETINGS

American Medical Association, Minneapolis, June 17-20

American Academy of Medicine, Minneapolis, June 13-15.
Amer. Medico-Psychological Assn., Niagara Falls, Can., June 10-13.
American Proctologic Society, Minneapolis, June 16-17.
Arizona Medical Association, Globe, May 20.
Arkansas Medical Society, Little Rock, May 20-23.
Connecticut State Medical Society, Hartford, May 21-22.
Florida Medical Association, Miami, May 13-15.
Illinois State Medical Society, Peoria, May 20-22.
Maine Medical Association, Portland, June 25-26.
Massachusetts Medical Society, Boston, June 10-11.
Missouri State Medical Association, St. Louis, May 13-15.
Montana State Medical Association, Great Falls, May 14.
Nebraska State Medical Association, Omaha, May 13-15.
New Hampshire Medical Society, Concord, May 13.
New Jersey Medical Society, Spring Lake, June 10-12.
North Carolina State Medical Society, Morehead City, June 17.
Oklahoma State Medical Association, Enid, May 13-15.
Rhode Island Medical Society, Providence, June 5.
South Dakota State Medical Association, Vermilion, May 27-29.
West Virginia State Medical Association, Charleston, May 21-23.

MEDICAL SOCIETY OF THE STATE OF NEW YORK

One Hundred and Seventh Annual Meeting, held at Rochester, April 28-30, 1913

The President, Dr. John F. W. Whitbeck, Rochester, in the Chair

The one hundred and seventh annual meeting of the Medical Society of the State of New York was held in Rochester, April 29-May 1, and for the first time in its history, outside of Albany. New York was selected as the place for holding the next annual meeting.

The following officers were elected: President, Dr. William Francis Campbell, Brooklyn; vice-presidents, Dr. W. Stanton Gleason, Newburgh; Dr. G. F. Blauvelt, Nyack, Dr. Myron B. Palmer, Rochester; secretary, Dr. Wisner R. Townsend, New York (reelected); treasurer, Dr. Alexander Lambert, New York (reelected); delegates to the American Medical Association, Dr. H. L. Elsner, Syracuse; Dr. Floyd M. Crandall, New York; Dr. A. E. Vander Veer, Albany; Dr. Wesley T. Mulligan, Rochester; Dr. S. W. S. Toms, Nyack; Dr. John O. Polak, Brooklyn; alternates, Dr. J. M. Lynch, New York; Dr. H. T. Furniss, New York; Dr. Charles A. Wall, Buffalo; Dr. J. C. MacEvitt, Brooklyn; Dr. T. H. McKee, Buffalo; Dr. G. E. Davis, New York.

Some Needed National Legislation

Dr. John F. W. Whitbeck, Rochester: Owing to the magnitude of the interests of the state of New York in its financial and populous importance, it does not seem unreasonable that this state, situated as it is, furthermore, near the federal capital, should essay to exert a potent influence on the acts of Congress in many, if not all, of the great and vital affairs of the whole people of the nation. For example, our House of Delegates, Jan. 22, 1910, passed a resolution urging Congress to authorize a Bureau of Public Health. Although Congress has not seen fit to establish a Department of Health, it is desirable that there should be one and that the enlargement of the powers of the Public Health Service, a department of the Treasury, is not enough. If the federal government could be persuaded that the highest interests of 90,000,000 inhabitants of the United States demanded an organization of a veritable national Department of Health, we should have a Secretary of Health, whose expert knowledge of the requirements and whose undivided attention to the administration of such a department, divested of pernicious political policies and the interference of "special interests," would definitely provide for a needful and efficient regulation of pure food and pure drug laws; a Division of Purification of Water-Supplies; a Division of Nutrition; a Division for the Study and Prevention of Accidents and Diseases of Industrial Workers; a Division of Vital Statistics; a Division of Education for the People in the Control and Prevention of Diseases. Then, too, we should have an adequate national chemical laboratory to solve many of the vexed problems of national importance. As has been stated, all of these divisions would come under one department, and would be under the supervision of one secretary, and would not be, as now, scattered among several departments with such a diversity of interests as should make the highest efficiency impracticable if not quite out of the question.

Pain and Other Clinical Manifestations of Myocarditis

Dr. Alexander Lambert, New York: We must fall back on the clinical observations of the different forms of myocardial degeneration that are most likely to occur with certain of the general diseases, and to estimate from other signs and symptoms than by the graphic method what is the form of myocarditis present. Cardiac pain is a much earlier symptom in cardiac disease than is generally believed. The majority of physicians do not pay much attention to precordial pain unless it radiates down the left arm; then they believe it is due to some form of angina, and if the patient does not have attacks of breathlessness, or does not drop down with it, they are prone to call it pseudo-angina, especially if it occurs in women. The most frequent position of pain is between the fourth and sixth ribs over the pectoral muscle near the nipple. This area is the one in which there is frequent tenderness, but frequently the hypersensitiveness of the skin and the hyperalgesia remain for a day or two after the actual pain has ceased. It is not uncommon for pain in the left wrist to be treated as gout or rheumatism which, in reality, is the first expression of myocarditis. Shortness of wind is one of the early signs of myocardial degeneration.

The Symptoms and Diagnosis of Involvement of the Heart in Syphilis

Dr. Harlow Brooks and Dr. John H. Carroll, New York:

1. Symptoms of cardiac involvement are manifested in a large percentage of cases of syphilis. 2. The symptoms of luetic heart disease may appear very early in the secondary stage, though most frequently not discovered until the tertiary period, largely because the patient attributes all his symptoms to the general disease, and special visceral signs are neglected. 3. The signs are those of an essential cardiac lesion, but differ from those idiopathic or simple cardiac cases in that there is here a greater tendency toward the involvement of the heart muscle and the coronary arteries. 4. Precordial pain is probably the most constant symptom, and one of the earliest. In a high percentage of cases this takes on a definitely anginal character. 5. Dyspnea, cyanosis and other usual signs of heart incompetence are customarily present long before true incompetence is evident. 6. In so far as the endocardium is concerned,

the greatest number of cases show combined mitral and aortic lesions; after these those of the aortic ring predominate. 7. Recognition depends primarily on the diagnosis of lues and on the association of a cardiac defect either of definite or supposititious nature. 8. The recognition of the nature of the general infection depends on the Wassermann reaction, the presence of associated lesions of a probable syphilitic nature, and finally on the history of this infection or of symptoms or signs indicative of it. 9. The most conclusive and important diagnostic test is the therapeutic test. 10. Recognition of the cardiac complication as probably luetic is best accomplished by the primary elimination, when possible, of other probable etiologic causes; by the early manifest tendency in luetic instances toward involvement of the myocardium and arteries; by associated arterial change, and finally by improvement or disappearance of the cardiac symptoms and signs under specific treatment.

Selective Drug Action on the Nervous System as an Aid to Diagnosis

Dr. Nelson G. Russell and Dr. Carroll J. Roberts, Buffalo: The so-called animal nervous system, which supplies the organs of sense and all voluntary muscles, is to be distinguished from the vegetative system, which supplies the smooth muscle of viscera, certain cross-striped muscle and the secreting portion of glands. The vegetable system is further divided into the sympathetic and the autonomic systems. The autonomic system is made up of a cranial portion, a bulbar portion and a sacral portion. Owing to the importance of the vagus, the chief nerve of the system, the autonomic system is also called the extended vagus, and the study of the drug reactions of this system is called vagotonic. The organs mentioned have two sets of nerve fibers which are physiologically antagonists, and a balance is theoretically necessary for the normal functions of the organs to be carried on. Each system is acted on selectively by certain drugs. Thus pilocarpin acts as an irritant to the autonomic system and produces the same effects as electric stimulation. Atropin acts as a depressor of the autonomic system and counteracts the effects of pilocarpin. Epinephrin stimulates the sympathetic system, but as yet we do not know of a drug that has a depressing action on the sympathetic system. Pilocarpin might in certain susceptible individuals produce, through stimulation of the autonomic system, certain symptoms, and one so susceptible is called a "vagotoniker." According to Eppinger and Hess of Vienna, many of the so-called cases of hysteria and neurasthenia, and the neuroses are, as a matter of fact, due to irritability of the autonomic system, and they support their claims by abundant clinical proof. The method of procedure carried out in the investigation of cases is described. The practical application of the facts learned from a positive reaction is that any symptom produced by an injection of 0.01 gm. of pilocarpin, referable to an irritable autonomic system, would be relieved by atropin, the depressor of the autonomic system, and a case is reported to illustrate this point.

Cardiac and Arterial Decompensation; Prevention and Treatment

Dr Louis F. Bishop, New York: The treatment of broken compensation with uncomplicated valvular disease in young persons requires a study of its cause, which is often enough found to be muscular strain that has been out of proportion to the power of the crippled heart, particularly when there has been dissipation. Prolonged rest may be necessary, and sometimes the occasional use of digitalis is required. The diet should be liberal, and the auxiliary use of iron, arsenic and strychnin as a tonic is allowable if there is true anemia or nervous depression.

The treatment of broken compensation in combined cardiac and arterial disease, which corresponds closely to secondary low blood-pressure, which I have so often described in previous communications, is the most serious problem in cardiovascular disease. The condition develops after years of compensatory life, and the sufferer presents dilatation of the heart with feeble valvular orifices and pathologic relaxation of the blood-vessels causing dropsy, edema of the lungs, congestion of the liver, impaired cerebral circulation and partial paralysis of the kidneys. In this condition, persons are always highly sensitive to many proteins, even often to the proteins of milk. Secondary low blood-pressure is always present, though, at times, the blood-pressure measurement is misleadingly high on account of local vascular spasm. Unfortunately, they often come to the specialist's notice when the situation has been complicated by the liberal, but not always wise, administration of inappropriate drugs. The limits of this paper do not allow the full discussion of so serious a condition. The principles of treatment in my own hands involve the thorough cleaning up of the intestinal condition by the administration of at least an ounce of castor oil on three successive occasions at intervals of forty-eight hours; by the thorough digitalization of the heart; by the withdrawal, at first, from the diet, of eggs, fish, meat and soups, and, in a large measure, of milk; allowing bread and butter, vegetables and cereals; and as soon as possible, the commencement of graduated exercise, leading up to as much of an outdoor life as possible, and gradually to a more liberal diet.

DISCUSSION

Dr. Hubert Schoonmaker, Clifton Springs: As to the effect of the internal secretions on the circulation, we have come to recognize the "thyroid" heart. To make a diagnosis of cardiac neurosis, neurasthenic heart, or gastro-intestinal reflex, or what not, does not mean much. If we could recognize at the outset the cardiac condition or the thyroid condition, we could take care of the patient in such a way that, in all probability, exophthalmic goiter would not develop. Every internist should recognize in the face of cardiac arhythmia, and particularly in cardiac palpitation, which is at all persistent, the probability of disturbance of the heart due to abnormal internal secretions and possibly hyperthyroidism.

Dr. Benjamin Stearns, Unadilla: Dr. Lambert in speaking of pain recalls a patient I had a number of years ago who had typhoid. He was convalescing, when one afternoon he was taken with a severe pain in the hip, radiating to the left side, and before I reached the house he was dead. This was six weeks following typhoid. The poison not being entirely eliminated from the system caused the severe pain that produced paralysis of the heart and sudden death.

Dr. E. Neuhof, New York: I cannot agree with Dr. Lambert that pain in most of these cases is due to changes in the myocardium. I have seen similar conditions in children with acutely dilated hearts, in whom the main lesion was endocardial. I have made a study of twenty-odd cases of arterial fibrillation, and the first symptom was dyspnea.

Dr. Henry Stark, New York: In most instances in which these patients complain of pain, there is also dyspnea. It is one of the first symptoms. Pain in the precordial region, although attended by heart symptoms, may afterward be proved to be due to disease in connection with some other organ or tissue or bone than the heart.

(To be continued.)

MISSISSIPPI STATE MEDICAL ASSOCIATION

Forty-First Annual Meeting, held at Vicksburg, April 7, 1913

(Concluded from page 1391)

Pregnancy Following Double Ligation and Division Between Ligatures of Both Tubes

Dr. F. D. Smythe, Memphis: Both tubes were divided and the distal ends anchored in the anterior layers of the broad ligaments. The operation was done June 9, 1910, and the woman was delivered of a 6½-pound baby Nov. 12, 1911, and is again pregnant.

DISCUSSION

Dr. J. W. Barksdale, Winona: Dr. Smythe's paper is important from a sociologic point of view. The sterilization of the insane and criminals has come to receive a good deal of attention at the hands of the legislative bodies of our states, and it is a question which will be dealt with in some way or another at no very remote time. It is interesting to note in how many experimental cases conception has followed attempts at the sterilization of animals. I read within a year a report of the commission of Iowa with reference to the sterilization of criminals and insane, with a series of experiments done on dogs, in which every known operation was done, except to remove the ovaries; and I think that in fully 80 per cent. of the cases conception occurred. The operation is one which in human beings is followed by pregnancy in at least 30 per cent. of the cases.

Dr. C. J. Miller, New Orleans: I think this can be explained from two different points of view, the physiologic and the pathologic. We know now of the transmigration of the ova, and that after most operations intended to accomplish sterilization, conception will again take place. I think in these cases a wedge-shaped portion of the fundus above the top of the uterus can be removed, and if you remove a portion of the tube going through the wall, you will not have pregnancy following. In those cases in which you want to be doubly sure you can bury the ovaries by splitting the broad ligament and placing the ovaries in the pocket behind the peritoneum. I have not as yet seen any definite reports of the usefulness of the operation.

Treatment of Puerperal Eclampsia

Dr. F. J. Underwood, Nettleton, called attention to the possibilities of preventing eclampsia, and emphasized the advisability of care of the pregnant woman. He then discussed the treatment of the eclamptic state, which he finds most successfully managed with large doses of veratrum.

DISCUSSION

Dr. I. W. Cooper, Newton: I have found veratrum the most satisfactory drug to use. If it is used judiciously, and given in teaspoonful doses, we shall not have to bleed our patients very often.

Dr. F. D. Smythe, Memphis: One obstetrician recommended teaspoonful doses of veratrum every hour until the pulse reached as low as 50 or 40, and he has not seen a patient have an eclamptic attack with the pulse at that stage. There is no reason to fear its toxic influence. Our first effort should be toward elimination of toxic material, and the most effective measure (especially does this apply to the obese) is phlebotomy. Next to that in importance is the rapid emptying of the uterus. Hypercatharsis should be brought about at once by the use of croton oil; and place patients with dry skin between warm blankets, and give a hypodermic of 1/8 to 1/6 grain of pilocarpin. The strongest point made in the doctor's paper is the importance of following up the treatment after delivery. It is on the careful watching and conscientious, intelligent application of therapeutic measures that our statistics so far as mortality of mother and child are concerned will depend.

Dr. O. S. McCown, Memphis: It is conceded that puerperal eclampsia is due to a toxemia of unknown origin, the result of pregnancy. This spends its force principally on the liver and kidneys, and nervous spasms result. Some time last year McPherson of New York reviewed the cases that had occurred in the Sloane Hospital, and the records showed that morphin gave about as good results as anything else. Many authorities advocate immediate emptying of the uterus at any cost, in whatever way seems to be indicated in the case at hand. There are others of equal prominence who advise letting the pregnancy go on and trusting to spontaneous delivery and to treating the patient. The bulk of testimony is rather against the use of chloroform or any of the chlorin products to control the convulsions, as the pathologic condition of the liver and kidneys in these patients is exactly the same as in case of death from chloroform poisoning.

Dr. J. S. Ullman, Natchez: My first thought in a case of eclampsia is to relieve that convulsion. I do not measure the dose; I simply fill my hypodermic syringe, and if the patient does not improve soon, I give her another dose. My next thought is elimination, and I secure it with calomel—10, 20, 30, 60 grains—enough to do the work. Morphin does the very thing you do not want to do by tying up the liver. I had a case recently in which I used veratrum and calomel and obtained good results.

Dr. J. W. Matthews, Greenwood: I agree as to the value of the veratrum treatment, but when it is said that we must not use morphin, then I take issue. One of my patients was a negro woman aged about 18. She was having the most frightful convulsions I ever saw. I gave the woman ½ grain of morphin and 1/100 grain of atropin. The os contracted, but by the time I got my instruments ready there was a relaxation, and I delivered her all right. My only objection to the use of morphin is the consequent cessation of secretions, but I have always obtained good results from its use, and expect to give it again.

Drainage in Pelvic Abscess and Pyosalpinx

Dr. F. M. Sandifer, Greenwood, considered the indications and contra-indications for drainage, and described various methods.

DISCUSSION

Dr. J. S. Ullman, Natchez: When there has been no rupture of the tube in taking it out, there is no reason to believe that pus has been spilled in any other portion of the abdomen. There is therefore no reason why a drain should be put in, and aside from the oozing, everything usually goes along without any trouble in these cases.

Dr. F. M. Sandifer, Greenwood: In all cases of pyosalpinx in which the temperature is normal at the operation, I never drain, even though I rupture a tube. Those patients will progress nicely. There is no increase of temperature under the operation. Under these circumstances a drain is contra-indicated.

Dr. N. A. McLeod, Brookhaven: We are getting further from drains as the years roll by. I would be governed in cases of a ruptured abscess in which the peritoneum has been smeared over with pus, largely as to whether it was a recent affair or whether it had had pus in there for a period of time. In acute cases of recent origin, and with the formation of pus, I would not hesitate to drain.

Treatment of Hookworm Disease

Dr. W. S. Leathers, University, gave some suggestions with regard to the diagnostic methods employed and the variation from the routine methods of treatment that is used in Kentucky. Two doses of salts are administered before the thymol, with a day intervening on which the patient ingests only liquids.

DISCUSSION

Dr. May F. Jones, Hattiesburg: We have been treating a number of patients with hookworm at the State Normal. Thursday night at bedtime we give an ordinary dose of salts; Friday morning, at breakfast, a glass of milk; for dinner a bowl of soup, and for supper another glass of milk. Saturday the patient is required to stay in bed and at 6 a. m., we give a dose of 30 grains (in three capsules) of thymol; at 10 a. m. another 30 grains, and another dose of salts; at 1 p. m. the patient has had one or two free movements. Most of these patients have since been examined, and a very small percentage show infection remaining.

Dr. C. C. Bass, New Orleans: In many of the writings suggesting treatment for the disease, the suggestion has been made that two purgations be given instead of one, say one each night, before beginning treatment on the third day. This treatment is well known to be productive of greater success than when the alimentary canal is not so thoroughly emptied. The most important point is that the alimentary canal should be thoroughly emptied. It seems to me that it would certainly promise better results if a second dose of salts were given on the night prior to the dose of thymol.

Dr. W. A. Dearman, Long Beach: Considerable importance is to be attached to the way the thymol is administered. I have abandoned the use of thymol in capsules, because the capsule is not dissolved until it reaches the intestinal juices, and often the worms escape. I now give thymol in mucilage of acacia, followed by a glass of cold water. I usually give two doses of thymol—very little of it, but repeat it. The people should be impressed to wear their shoes. I have never seen the disease contracted except in a wet cow-lot.

Etiology of Pellagra

Dr. W. A. Dearman, Long Beach: I induced pellagra in a monkey by feeding it some of the pseudomembranous deposit from the tongue, and some of the saliva, of a pellagrin. The monkey died, having presented symptoms of pellagra. From observations and the post-mortem findings I consider pellagra a gastro-intestinal intoxication caused by a specific saprophyte that thrives on carbohydrates and gives rise to a peculiar toxin which causes the disturbances noted in skin and mucosa. In treatment I have had best success with arsenic.

Treatment of Pellagra with Opium: A Tentative Report

Dr. J. W. Gray, Clarksdale: I have treated and have reports on the treatment by others in fifty-nine cases. The results have been almost universally good. I administer from 5 to 30 drops of tincture of opium, three times a day, reducing the dose as soon as the symptoms begin to subside. I have not noticed the formation of a habit.

DISCUSSION

Dr. W. T. Matthews, Greenwood: I have had some experience with pellagra, altogether fourteen cases, and have used three treatments. Of the three I heartily endorse the opium treatment as used by Dr. Gray. I invariably start the treatment with thymol; I then follow with opium, and some times with chlorinated lime, and also calcium sulphid, with good results. But the patients treated with opium seemed to recover more quickly and with no symptoms of return, than did those when other treatments were used.

Dr. T. M. Dye, Clarksdale: I treat my patients exclusively with opium, and clothes and stockings, and broad-brimmed hats to protect them from the sun. When a decrease of the dose of opium did not result in a decrease of the symptoms, I continued to increase the opium and gave castor oil for the constipation.

Dr. E. R. Gordon, McComb City: We have patients who have not been given any treatment at all, and after a certain time the diarrhea seems to subside. Some of them have had recurrences in twelve months, and some of them have not. I have had some patients in whom opium did not control the diarrhea at all, but after a certain time it has naturally ceased.

Chronic Malaria and Malarial Relapse

Dr. C. C. Bass, New Orleans, described the phenomena of the malarial paroxysm and those of malarial cachexia. The relapse is not due to segmenting parasites that escaped destruction by quinin, but to the sexual form of the parasite which is more resistant and which is the only form that can reproduce in the mosquito. The cycle is about seven days. Relapse after long interval is explained on the ground of acquired resistance on the part of the patient and consequent retardation of the development of the parasite. Another source of supposed relapse is reinfection. A patient may be reinfected by mosquitoes that he has himself infected during his original attack.

DISCUSSION

Dr. R. M. Donald, Hattiesburg: There is hardly a doctor who has not seen patients have recurrences of fever after taking quinin. In my section practically all malaria is of the tertian type; if there was ever a case of the estivo-autumnal affection, I have never seen it. I lived for a number of years in the Delta where the type of malaria is almost entirely estivo-autumnal, and I tried my best to break it up and often the patient would get hemoglobinuria and die.

Dr. J. T. Longino, Jamestown: Dr. Bass advises 30 grains of quinin a day to cure malaria. I do not believe that it will take 30 grains, or that there is any form of malaria requiring this much if it is assimilated.

Dr. J. D. Donald, Hattiesburg: I have given quinin by mouth in all its forms. Hypodermically, 20 grains to-day will stave off a chill to-morrow, and another 20 grains will stave off the chill the next day; and then when I have given 40 grains, if I leave off the quinin for a few days, the chill returns, and will return every day until I give quinin hypodermically.

Dr. William Kraus, Memphis, Tenn.: If the asexual form remains in the blood without the sexual form, a mosquito can bite that patient indefinitely without reproducing that disease in other persons. The idea obtains of screening patients suffering from fever—such a patient is infinitely less dangerous than the patients who are apparently well, and going about but still carrying the germs in their systems.

Whole-Time County Health Officer

Dr. W. S. Leathers, University: The purpose of boards of health is to reduce sickness and to protect life. The keeping of vital statistics is the only satisfactory index of the efficiency of this work. The recent law passed through the efforts of this association will yield important results. Our present State Board of Health is accomplishing much through the new state laboratory, the inspector of municipal sanitation, the several field workers in the hookworm campaign and numerous bulletins and public addresses. The weakest spot in the battle-line is the county health officer—underpaid, untrained and hampered by the necessity of making his living by private practice. The popular fad to-day is conservation. Moreover, we know how to prevent most of the diseases that ravage the country. Yet the average annual sick-rate in Mississippi from seven common diseases (typhoid, tuberculosis, scarlet fever, diphtheria, malaria, uncinariasis and diarrhea) is about 460,000, with a death-list of over 8,000. The cost from sickness is over $16,000,000 a year—more than twice the total state revenue—while the economic loss from death (based on insurance estimates of life values) is over $12,000,000 in addition. A small part of this sum properly expended would eliminate a large percentage of the illness and death. The greatest need of to-day is the whole-time county health officer. His duties are as important and as onerous as those of the circuit judge and many other officials who are paid to give their whole time to the public service. At present in most counties his salary is merely nominal and his performance correspondingly small. His duties are many—school inspection, control of water-supplies and of food depots (hotels, groceries, slaughter-houses, etc.), administration of pure food laws, management of epidemics, and education of the public by addresses, bulletins, newspaper articles, etc. The entire time of a trained man is needed. Other states are beginning to move along this line. Mississippi can and should move with them. This reform will be accomplished when the people realize that "sick people are an expense to the state whether the burden be borne by the state or by the individual, for the wealth of the state is but the aggregate wealth of the people, and any state that will not assume the duty of caring for the public health will fail in its competition with other states."

LOUISIANA STATE MEDICAL SOCIETY

Thirty-Fourth Annual Meeting Held at Baton Rouge, April 22-24, 1913

The President, Dr. B. A. Ledbetter, New Orleans, in the Chair

Officers Elected

The following officers were elected for the ensuing year: president, Dr. Fred J. Mayer, Opelousas; vice-presidents, Drs. A. J. Perkins, Lake Charles; A. J. Gladden, Monroe; W. S. Rutledge, Ruston; secretary, Dr. L. R. DeBuys, New Orleans; treasurer, Dr. E. W. Mahler, New Orleans.

New Orleans was selected as the place for holding the next annual meeting.

What the General Practitioner Should Know about Gonorrheal Iritis

Dr. R. F. Harrell, Alexandria: In a certain percentage of cases of gonorrhea which begin as a local, specific urethritis, there occurs the absorption of bacteria or toxins from the urethra which invade the entire system and have a selective affinity for the serous fluids and surfaces of the body. Most of these cases manifest themselves at first in the form of a gonorrheal arthritis of one or more joints, but we may have pericarditis, endocarditis, peritonitis or meningitis. Gonorrheal iritis generally, but not always, accompanies or follows an attack of gonorrheal arthritis. When the system is once invaded by gonorrheal toxins, the patient is not entirely free from the liability to attacks of iritis for a period of ten years. In the local treatment of these cases we use atropin, colyria and heat compresses. Dionin (10 per cent.) instilled two or three times daily, is one of the best remedies as its first effect is to bring about a great increase in the blood-supply to the eye, followed by a recession that opens up the lymph spaces and relieves the eye of a certain amount of disease process and also assists in the control of pain. The constitutional treatment consists in the use of antigonococcic serum and vaccines.

DISCUSSION

Dr. George S. Bel, New Orleans: A patient of mine had gonorrhea, and six weeks following it he had an acute general septicemia, with acute endocarditis and pericarditis. The gonococcus was isolated from the endocardium and pericardium, showing conclusively that the germs invade other parts of the system than the urethra. The organisms were found in the tissues of the heart. This patient had a small aneurysm of the ventricle which perforated into the auricle and caused sudden death.

Acute and Subacute Pharyngeal Tonsillitis

Dr. Homer Dupuy, New Orleans: If one recognizes infectious adenoids as they recur, and treats them properly, he may prevent (1) chronic hypertrophy, or adenoids; (2) infections of the middle ear and (3) extension into the lymphatics of the neck. As to treatment, sprays and douches should be condemned. To reach the postnasal space, argyrol, 20 to 30 per cent., and epinephrin solution, 2:3.000 or 2:4.000, in each nostril is both antiseptic and astringent and reduces the hyperemia and removes one of the features in the acute infection.

DISCUSSION

Dr. Leon J. Menville, Houma: A child, aged 6, had enlargement of the lymph-nodes of the neck. The case was diagnosed by a reputable physician as tuberculous adenitis, and later diagnosis was made of sarcoma. It was found that the enlargement of the lymph-nodes was due to adenoids and subsided on removal of the adenoids.

Dr. J. A. Caruthers, Baton Rouge: From 40 to 50 per cent. of the children in our public schools to-day are affected with adenoids, and fully 50 per cent. of the old chronic catarrhal conditions in the middle ear in after life are due to adenoids. If these things can be relieved or stopped in early infancy, it is of infinite importance to do so, because later those chronic inflammations in the middle ear will suppurate, adhesions will form, and then it is absolutely impossible to give relief. I examined fifty children in the public schools and thirty-eight had enlarged pharyngeal tonsils.

Dr. L. J. Genella, New Orleans: One hundred per cent. of children in the ninth year of age have postcervical adenoids. Between the ninth and eleventh year the percentage is less, and between 11 and 14 we find very few of them. In making a diagnosis of postcervical adenoids, one should be slow in attributing it to a pathologic condition in children 7 and 9 years of age.

Dr. R. C. Lynch, New Orleans: We are all accustomed to associate the presence of hypertrophy or disease of the pharyngeal tonsil with the infant or young child. I believe in New Orleans recently we have been in the midst of a mild epidemic of acute infections of the pharyngeal tonsil in adults giving rise to severe symptoms of toxemia. They were of a severe character, giving rise to myalgia, cervical pain, enlargement of the cervical lymph-nodes, and the presence of streptococci in abundance throughout the pharyngeal tonsil.

Dr. G. C. Chandler, Shreveport: I do not think much of the medical treatment of adenoids. Operation for their removal is so simple and so quickly done, that I advise their removal at once.

Dr. H. E. Dupuy: When the symptoms indicate chronic hypertrophy, nasal obstruction and enlargement of the lymph-nodes with respiratory symptoms, we should resort to radical treatment. We must be impressed with the fact that they have such a thing as adenoiditis in early life which is often so obscure in its general features that it escapes the observer.

Ehrmann's Palmin Test

Dr. J. A. Storck, New Orleans: Of eight instances in which I applied this test, six proved positive, and in each the patient showed no evidence of any pancreatic disturbance. In the two instances in which no reaction occurred, there were evidences of pancreatic disease, fat droplets, ingested meat fibers, meat nuclei in the feces and sugar in the urine. Recently I have been using palm oil free of fatty acids for testing the function of the pancreas and can report it to give satisfaction.

State and Local Legislation and What It May Accomplish for Sanitation

Dr. S. D. Porter, Baton Rouge: Suggestions for state and local legislation which may accomplish much for sanitation are: 1. More liberal appropriations for public health work. 2. The establishment of laboratories for the study of the causes of transmission of diseases. 3. A law similar to our medical practice and parish superintendence of education laws, prescribing the qualifications of health officers. 4. A law establishing medical inspection of schoolchildren, with more definite instructions to the schoolchildren in personal hygiene and general sanitation. 5. A law establishing a chair of hygiene and sanitation in our colleges and universities, and more systematic teaching of it in all our institutions of learning.

Eclampsia

Dr. Charles McVea, Baton Rouge: I have made it a rule to examine the urine of every pregnant woman every Wednesday morning. Of seventeen patients whom I have had, thirteen were primiparae; one was pregnant for the second time, two were pregnant for a third time, and one was pregnant for the seventh time. Eight had their convulsions at night. Four thought their convulsions were brought on by an approaching storm. Ten of these I saw for the first time in the convulsions. Ten had convulsions before delivery, two during labor and five after delivery—one six hours after delivery. Seven had their seizures or convulsions at or near the eighth month. Four were 16 years of age, two 17, nine were less than 25 and two were over 35.

When we do not have time to give calomel, an ounce of magnesium sulphate should be given. If the pulse is rapid, I use veratrum in doses of from 15 to 20 drops, hypodermically by preference. I do not believe in giving morphin because it interferes with the action of the skin, liver and kidneys. I do not believe in chloroform or ether, except as an expedient during delivery.

DISCUSSION

Dr. J. C. Willis, Shreveport: Dr. McVea's excellent record is due largely to the fact that he has kept in close touch with his patients. Had he allowed many of them to go along without examining their urine, and had a large amount of poisonous material in the body, overlooked between analyses, accumulated, he would not have had such a splendid record. I have had better success since I have adopted a plan similar to the one Dr. McVea has outlined.

Dr. Robert C. Kemp, Baton Rouge: The use of the sphygmomanometer in observing blood-pressure in these puerperal women is a valuable aid. It is rare that a woman will develop a convulsion if she has had a normal blood-pressure; but in the presence of albumin, with a high blood-pressure, the convulsive seizures become threatening to the lives of these patients.

Dr. E. L. Sanderson, Shreveport: I have had only two cases of puerperal eclampsia in five years of practice. I have examined the urine of these women every month for the first two or three months of pregnancy and later on every week or ten days. I believe intestinal intoxication is at the bottom of many cases of puerperal eclampsia, and at the time convulsions take place we may have an acute nephritis setting in.

Emergency Surgery of the Skull

Dr. Robert C. Kemp, Baton Rouge: Operation should be done in all cases of traumatic cerebral hemorrhage, not only to save the life of the patient immediately, but to prevent posttraumatic epilepsy. The success of surgery of the skull depends entirely on a rigidly aseptic technic, for if sepsis enters the field, gloom will usually crown the result. The skull should be entered if possible at the site of the extravasation. I would advocate that every medical man be prepared to handle surgically every case of skull trauma in which hemorrhage exists. Success depends on careful aseptic technic and prompt action. In every case of unusual and alarming symptoms in the new-born, subdural hemorrhage should be considered.

DISCUSSION

Dr. F. W. Parham, New Orleans: Many times we may have a serious injury from compression or actual injury of the brain from depressed bone without any evidence of it in the skin, except extravasation; and in these cases it would be well to make an incision in the skin and find out positively whether or not there is depression of the skull rather than let the cases go until symptoms are manifested.

Petrolatum as a Substitute for Beck's Paste

Dr. Peter S. Salatich, New Orleans: Yellow petrolatum is easier to handle than Beck's paste and more readily obtained. Beck's paste requires a special syringe and some trouble to use. The method I use to prepare it for injection is simple. Petrolatum can be purchased in flexible tubes, already sterilized. Sterilize the amount necessary in an open vessel, set in the sterilizer or water bath, then draw it into one or more ordinary glass syringes and use partly warm or cool, as is done with Beck's paste. In the most foul and freely suppurating cavities, after one injection and without any other treatment, all odor and suppuration diminish. After an incision has been made (only a small one is necessary when petrolatum is used), all the pus is pressed out; the cavity is then filled with petrolatum and the wound needs no dressing for two or three days, at the end of which time very little odor and pus remain. The procedure is then repeated, and the dressings can remain for a longer period, only wiping of the abdomen with alcohol being necessary. It is marvelous how rapidly healing takes place in cases in which the entire wound above the fascial layers suppurates, and with less danger of hernia resulting. In all acute and subacute sinuses it is best to wait until a little serum or seropus exudes before injecting the petrolatum, especially if there is any fear of dead bone being at the bottom, which must be removed or the patient is made worse: for the petrolatum stops drainage and the pus must find some other means of exit.

Prostatectomy Under Local Anesthesia

Dr. Carroll W. Allen, New Orleans: In cases in which I have applied the principle of anoci-association of Crile by resorting to a preliminary injection of the prostate with anesthetic solutions, there has been an improvement in the results, as these patients show practically no change in their physical condition after operation. The control of hemorrhage is accomplished by the logical addition of epinephrin to the injected solution; the absence of all bleeding in patients so treated is most striking, practically no blood being lost at all, just enough to moisten a few sponges; thus there is a decided gain for the patient, the two-shock-producing factors being eliminated. The results of this technic have been borne out by a more rapid convalescence of patients, and this method combined with a two-stage operation, opening the bladder a few days before under local anesthesia, has enabled me to carry to a successful termination cases of badly infected bladders in fever patients, on whom I would have hesitated to operate by any other method. I would urge that even under general anesthesia the surgeon resort to the preliminary injection of a local anesthetic combined with epinephrin.

DISCUSSION

Dr. E. L. Sanderson, Shreveport: In drainage of the bladder after prostatectomy one should be careful not to have the tube press on the posterior wall of the bladder as it will cause trouble. At necropsy I have seen two or three cases in which the weight of the retention catheter had perforated the posterior wall of the bladder.

Dr. E. M. Ellis, Crowley: I believe that the combined method of operating on these patients, especially those with a highly infected bladder, namely, opening the bladder a week before the final operation, draining it through the suprapubic route and irrigating it if necessary with antiseptic solutions, will relieve the kidneys of all previous pressure and put the patient in a much better condition for the final operation.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Arkansas: *Regular*, Little Rock, May 13-14. Sec., Dr. F. T. Murphy, Brinkley; Eclectic, Little Rock, May 13. Sec., Dr. C. E. Laws, Fort Smith.

Florida: Jacksonville, May 12-13. Sec., Dr. J. D. Fernandez.

Massachusetts: State House, Boston, May 13-15. Sec., Dr. Walter P. Bowers, Room 159, State House.

Michigan: Y. M. C. A. Bldg., Detroit, May 22-24. Sec., Dr. B. D. Harison, 504 Washington Arcade.

Nebraska: Lincoln, May 28-29. Sec., Dr. C. P. Fall, Beatrice.

Nebraska February and March Report

Dr. C. P. Fall, secretary of the Nebraska State Board of Health, reports the written examination held at Lincoln, Feb. 12-13, 1913. The number of subjects examined in was 14; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 4, all of whom passed. Five candidates have been granted licenses through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Alabama	(1912)	81.5
Northwestern University Medical School	(1909)	79.5
Creighton Medical College	(1911) 77.5; (1912)	82.4

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
College of Physicians and Surgeons, Keokuk	(1878)	Iowa
Drake University	(1905)	Iowa
University of Minnesota, Dept. of Med. and Surg.	(1890)	Minnesota
Jefferson Medical College	(1906)	*S. Dakota*
University of Tennessee	(1912)	Tennessee

The March 12 examination consisted merely of the oral examination of one candidate, a graduate of Baltimore University, 1896, who passed with a grade of 80.4.

Maine March Report

Dr. Frank W. Searle, secretary of the Maine Board of Registration of Medicine, reports the written examination held at Portland, March 11-12, 1913. The number of subjects examined in was 10; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 13, of whom 10 passed and 3 failed. One candidate was licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Cooper Medical College	(1895) 86; (1898)	82
Hahnemann Medical College of Chicago	(1912)	85
Medical School of Maine	(1912)	80
Maryland Medical College	(1912)	80
Boston University	(1912)	85
College of Physicians and Surgeons, *Boston*	(1912)	76
Tufts College Medical School	(1908)	85
Harvard Medical School	(1912)	84
Jefferson Medical College	(1905)	92

FAILED

College	Year Grad.	Per Cent.
Medical School of Maine	(1912)*	
Maryland Medical College	(1912)	70
College of Physicians and Surgeons, *Boston*	(1909)	74

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
University of Vermont	(1911)	Vermont

*No grade given.

Book Notices

Fatigue and Efficiency. A Study in Industry. By Josephine Goldmark, Publication Secretary National Consumers' League. Introduction by Frederic S. Lee, Ph.D. Containing also the Substance of Four Briefs in Defense of Women's Labor Laws by Louis D. Brandeis and Josephine Goldmark. Cloth. Price, $3.50. Pp. 890. Russell Sage Foundation. New York: Charities Publication Committee, 1912.

In 1892 John Lubbock introduced an early closing bill in Parliament, and defended it with a memorial on the injuries resulting from overlong hours in shops. In America Louis Brandeis suggested that a similar plea might be made in support of a law limiting the hours of women's work. When the Oregon law fixing a ten-hour day for women in industry was carried to the United States Supreme Court, the case was entrusted to Mr. Brandeis, and the brief he presented marked a radical departure in the defense of labor laws, for he based his plea on the physiologic limitations of woman's strength and on the harmful effects on the present generation and on the race resulting from the overwork of women. The Supreme Court decided in favor of the Oregon law, declaring that woman's "physical nature and the evil effects of overwork on her and her future children justified legislation to protect her."

Mr. Brandeis' briefs were prepared chiefly by Josephine Goldmark of the National Consumers' League, and consisted of citations from the works of physiologists and clinicians, the reports of factory inspectors and sanitarians, on the nature of fatigue, the manifestations of fatigue, the fatigue-producing elements in modern industry, and the pathologic effects of fatigue especially on the female organism and through her on the following generation. The present book contains these briefs as an appendix.

The book proper is a treatise on fatigue in all its aspects. The preface is written by F. S. Lee, who speaks of the quickness with which industrialism has accepted the achievements of science in inanimate things, and the slowness which it has shown in recognizing the teachings of physiology with regard to the workman himself. "Methods and machines have been revolutionized, but the human element has not yet been eliminated. The man, woman or child is still essential to the machine, and while the inanimate agent demands more and more of him, his fundamental physiologic powers are probably not so very different from what they were when he built the pyramids and made papyrus."

The fatigue-producing elements in modern industry are illustrated by Miss Goldmark through certain industries, the descriptions of which make it evident that the increase of nervous disease among working people at present is largely caused by the excessive speed and excessive strain on attention which modern machinery entails. One chapter deals with the increase of efficiency under the eight-hour day as illustrated by the piece-workers at the Zeiss Optical Works in Jena. Ernst Abbe, the inventor of the condenser which bears his name, appears here as the first exponent of scientific efficiency, at once a physiologist, a humanitarian and a captain of industry.

The book will serve as an admirable reference authority to all who are interested in industrial hygiene.

Malaria—Cause and Control. By William B. Herms, M.A., Assistant Professor of Applied Parasitology, University of California. Cloth. Price, $1.50 net. Pp. 163, with 39 illustrations. New York: The Macmillan Company, 1913.

It may be a matter of some surprise to many to know that California, in certain sections, has considerable malaria. It is asserted that it, like hookworm, has been imported into the state—probably by settlers from the malarious districts of other Southern states. This book gives a history of the systematic efforts to eradicate the malarial mosquito by the health authorities in the state and the different communities in which malaria exists. Most of this work has been done under the supervision of the author of the book.

The campaign in any community always included a mosquito survey, the enlistment of the support of the local health authorities, the proprietors of land-projects, the education of the people, including the children in the schools, and such permanent measures as drainage and filling, and temporary measures such as the oiling of ponds and all pools of stagnant water. Legal measures authorizing counties or communities to conduct antimalarial campaigns, with the assessment of the expenses, have not been entirely successful. The governor of the state, a few years ago, vetoed a bill passed by the legislature. One county, however, has passed an ordinance providing for antimalarial campaigns in any community on the initiation of ten or more residents, with power to levy assessments to pay the expenses. The State Board of Health and the department of entomology of the state university, of which the author of this book is the head, have taken great interest in the antimalarial compaigns throughout the state and have afforded assistance to all communities desiring to conduct such campaigns. In view of the extensive campaigns against malaria in the South, to be conducted by the recently appointed Malaria Commission, the experience of California during the past few years should be of considerable interest, as most excellent results have been attained in all instances in which efforts have been made to eradicate the malarial mosquito. The economic features of the problem are graphically and interestingly described in this book.

Tuberculin in Diagnosis and Treatment. By Louis Hamman, Associate in Medicine in the Johns Hopkins University, and Samuel Wolman, Instructor in Medicine in the Johns Hopkins University. Cloth. Price, $3 net. Pp. 381. New York: D. Appleton & Co., 1912.

After more than twenty years of experimentation and clinical experience, the time has arrived, when a sufficient amount of truth regarding the tuberculin reaction as a diagnostic and curative agent has crystallized to make it worth while in the opinion of the authors of this work to put it into systematic and permanent form. The work is the result of a large personal experience, which permits the production of a book of special practical value. Since correct views regarding the important clinical phenomena involved in the use of tuberculin can only be based on a clear understanding of the nature of tuberculin and the limitations of its activity, a considerable amount of theoretical matter has necessarily been introduced. The limitations of tuberculin as a diagnostic agent are clearly stated, and its use only as a subsidiary method is strongly urged. The impossibility of distinguishing by its means in ordinary cases between tuberculous infection and tuberculous disease or between active and latent tuberculosis is well brought out. The authors are advocates of tuberculin treatment as a means of treatment to be used along with other measures, a method of treatment which the clinician dare not neglect, but which he cannot rely on to the exclusion of other useful methods. The book should form a useful guide to those who wish to use intelligently and safely this valuable method of treatment, about which there has been much uncertainty in the past.

Manual of Bacteriology and Pathology for Nurses. By Jay G. Roberts, Ph.G., M.D. Cloth. Price, $1.25 net. Pp. 206., with illustrations. Philadelphia: W. B. Saunders, 1912.

This book seems to be admirably adapted for the use of nurses. The author evidently believes that the trained nurse is destined to become the teacher of the masses along the lines of preventive medicine and sanitation; therefore he has devoted considerable space to the subjects of infection, immunity and bacterial and serum therapy. The technical details of laboratory work and microscopic diagnosis are given little space, as the nurse is not concerned in these branches.

Essays on Genito-Urinary Subjects. By J. Bayard Clark, M.D., Assistant Genito-Urinary Surgeon to Bellevue Hospital. Cloth. Price, $1.25 net. Pp. 174. New York: William Wood & Co., 1912.

This is a collection of clinical lectures delivered by the author before his classes. There is no attempt at comprehensive treatment of any of the subjects, each being considered from the author's own point of view. The book contains much matter valuable to one interested in genito-urinary subjects.

Medicolegal

Validity of Statute and Board of Health Rule as to Wrapping of Bread

(State vs. Normand et al. (N. H.), 85 Atl. R. 899)

The Supreme Court of New Hampshire overrules exceptions to a conviction of the defendants of a statutory offense in not wrapping in paper, as required by a rule of the State Board of Health, bread exposed for sale. The court says that the 1911 statute involved in the case declares that the existence or maintenance of any unclean, unhealthful or insanitary condition or practice in any establishment or place where food is produced, manufactured, stored or sold, or of any car or vehicle used for the transportation or distribution thereof, is forbidden, and provides that "unclean, unhealthful or unsanitary conditions or practices shall be deemed to exist . . . if food in the process of production, storage, sale or distribution is unnecessarily exposed to flies, dust or dirt, or to the products of decomposition or fermentation incident to such production, storage, sale or distribution . . . or if there is any other condition or practice which shall be deemed as endangering the wholesomeness of food." It furthermore empowers the State Board of Health "to make all necessary rules and regulations for the enforcement of this act." Under this statute, the State Board of Health adopted the following: "Whereas, bread is an article eaten without being subjected to any preparation, and commonly undergoes frequent and objectionable handling and exposure in connection with its distribution, sale and delivery from bakeries, stores and wagons, it is ordered that all bread loaves, before removal from the baking room, shall be wrapped in clean, unused paper, unprinted or printed on one side only. The use of newspapers or of any unclean paper for the wrapping of any articles of food is prohibited."

In view of the well-recognized medical facts that the germs of disease are distributed by flies when they come in contact with food designed for human consumption, like loaves of bread, and that typhoid fevers are often traced to that cause, it is clear that the statute has direct reference to the public health. Such a condition or practice is a constant danger to the health of the community; and the statute was enacted to protect the people from that danger, and if enforced it would manifestly have that effect. Hence it is within the police power of the legislature and is a constitutional enactment, so far as its purpose is concerned.

The wrapping of bread in paper when exposed for sale would seem to be the most feasible way of protecting it from the contamination caused by handling and by the presence of dust and flies and perhaps other noxious insects, and it is clear that if the statute had contained the rule in question it would have been a valid provision. Nor does the fact that it was made by the board of health under a delegated power from the legislature render it invalid as a rule. The statute is complete in itself. It in effect declares that bread unnecessarily exposed to flies and dirt is a public menace and provides a penalty for the infringement of any of the provisions of the act. But to secure an efficient enforcement of the act, and to accomplish the legislative purpose, the State Board of Health is charged with the enforcement of the law, and for that purpose it is authorized "to make all necessary rules and regulations." This provision was not intended to authorize the board to legislate, or to add to, change, or modify the statute. It was not intended as a delegation of legislative power. The "rules and regulations" were to be such as might be deemed necessary "for the enforcement of this act." In order to prevent flies from congregating on the loaves of bread in bakers' shops and in their carts, one of the objects the legislature had in mind, some general rule, if a feasible one could be devised, was necessary for the practical enforcement of the act; and when the board of health made the rule requiring loaves of bread to be wrapped in paper it was not legislating, but merely exercising a power conferred on them by the state as administrative officers. It was its duty to enforce the law, and the rule it promulgated in the exercise of that power was a means it adopted for the accomplishment of that purpose. The delegation of such power is not unusual. No discretion is vested in the board to determine whether such exposure of bread is or is not a nuisance, or what the penalty shall be for such exposure. The board is merely authorized to abate the nuisance declared to exist by the law-making power, and for this purpose—that is, the enforcement of the law—to make reasonable rules and regulations, for the violation of which, resulting in the continuance of the nuisance, a penalty is imposed.

Sufficient Allegations to Show Liability for Malpractice

(Williams vs. Union Pacific Railroad Co. (Wyo.), 124 Pac. R. 505)

The Supreme Court of Wyoming reverses a judgment rendered for the defendant on a demurrer to the plaintiff's petition on the ground that it failed to state facts sufficient to constitute a cause of action. The court says that it was to be observed that the plaintiff alleged in the petition, among other things, that the defendant did not furnish him with proper hospital accommodations in the hospital provided for injured employees, and did not treat him properly therein, and did not furnish him the services of skillful or competent physicians or trained or capable nurses, and did not use or exercise due or reasonable care in the selection of such nurses and physicians and surgeons as were furnished to the plaintiff. With reference to cases of this character, it may be said that in general it has been held that a railroad company is not liable for the negligence of its surgeons if it has used reasonable care in their selection. The court thinks that is the correct rule. It is also held that the duty of a charity hospital ends with the selection of capable surgeons and nurses. And on demurrer everything alleged in the petition must be taken as true.

It was alleged in this case that the physician furnished did, in the performance of the operation, "carelessly and negligently, and unnecessarily cut a large hole in the neck of the plaintiff's bladder." The words "carelessly" and "negligently," as thus used, were not synonomous with the word "unnecessarily." The latter negatived the necessity of cutting the bladder in the performance of the operation while the former referred to the manner of doing and not to the necessity of doing. The necessity of cutting the bladder in the performance of the operation rested in the judgment of the surgeon, and called into activity his power to perceive and perform, which was the measure of his skill. If, therefore, he performed an act unnecessary to the operation with or without negligence, such act would be attributable to errors of judgment or want of skill.

Summary Annulment of Revocation Certificate Reversed

(In re Conrad (N. Y.), 140 N. Y. Supp. 630)

The First Appellate Division of the Supreme Court of New York reverses an order of a special term of the Supreme Court setting aside and annulling a certificate of the Board of Regents of the University of the State of New York and the revocation of a physician's license. The court says it appeared that the petitioner, who was duly licensed to practice medicine in the county of New York, was, on the eighth day of April, 1904, convicted of the crime of attempted abortion, which is a felony, and sentenced to not less than one year and not more than two years in the state prison. The record of conviction showed that he had been theretofore convicted of "keeping lying-in hospital without a license." After serving sixteen and a half months at Sing Sing, he was paroled, and on July 5, 1906, finally discharged. Prior to Dec. 3, 1908, the Medical Society of the County of New York, a domestic membership corporation, applied to the Board of Regents of the University of the State of New York for the revocation of the license of the petitioner to practice medicine, and for the annulment of the registration of his license, on a petition duly verified based on the indictment, conviction and sentence of the petitioner for the crime of an attempt to commit an abortion, and on the first day of April thereafter the Board of Regents revoked the license and registration, and caused the fact to be certified to the clerk of the county of New York by the first assistant commissioner of education of the department of education of the state of New York, and it was received and filed by the county clerk, who, acting pursuant to the provisions of the statute, thereupon marked the registration of the petitioner's license to practice medicine "Annulled." On the thirty-first ray of March, 1911, the governor duly issued a pardon to the petitioner. Without expressing any opinion with respect to the regularity or validity of the action taken under the statute with a view to annulling the license of the petitioner to practice medicine and the registration thereof, or as to whether he had, or has, any remedy by which his right to practice medicine may be authoritatively determined before he attempts to practice and thus subject himself to prosecution. the court is of the opinion that the court was without jurisdiction, on mere petition or motion, to grant the relief for which the application was made. The Supreme Court has no authority on a summary application over the county clerk, excepting in so far as he acts under the constitution and law as clerk of the court; and manifestly in filing the certificate of annulment and marking the registration of the license as required by the statute he was not acting as clerk of the court.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Orthopedic Surgery, Philadelphia

May, X, No. 4, pp. 599-723

1 *Use of Intra-Articular Silk Ligaments in Paralytic Joints of Poliomyelitis Anterior. E. Bartow and W. W. Plummer, Buffalo.
2 Results Obtained by Implantation of Silk Tendons in Residual Paralysis of Poliomyelitis. N. Allison, St. Louis.
3 *Study of Condition Frequently Called "Sciatic Scoliosis." C. H. Bucholz, Boston.
4 *Seashore Treatment of Osteomyelitis. R. Hammond, Providence, R. I.
5 *Treatment of Congenital Flat-Foot by Tendon Transplantation. A. T. Legg, Boston.
6 Subluxation of Lumbosacral Joint as Cause of Paraplegia. Report of Case; Recovery after Manipulation. R. R. Fitch, Rochester, N. Y.
7 Tuberculosis (Primary?) of Supraspinatus Muscle. J. T. Rugh, Philadelphia.
8 Elephantiasis Neurofibromatosis of Foot with General Neurofibromatosis. J. T. Rugh, Philadelphia.
9 Treatment of Spastic Contractures by Neuroplasty. A. Stoffel.

1. Abstracted in THE JOURNAL, Aug. 3, 1912, p. 393.

3. Condition Frequently Called "Sciatic Scoliosis."—Sciatic scoliosis has been found a rather frequent affection by Bucholz. It is most frequent in the age between 30 and 40 years. It has never been observed in the age below puberty and is very rare in the age over 60. There seems no prevalence as to the side of the affection. Homologous cases are much less frequent than heterologous cases. Men are much more frequently affected than women; especially the extreme type is very rare in women. Traumatism plays an important. perhaps the main, rôle in the etiology. A marked lateral deviation is usually connected with a marked flattening or reversing of the lumbar lordosis. The prognosis is much better in cases with a definite traumatic cause than in those with an indefinite slow onset.

Among forty patients seen by Bucholz there are only nine women and only one of them presents a marked lateral deviation. Among the thirty-one male patients the cause has been a single trauma in twelve cases: Heavy lifting in six cases, a certain catch in chopping wood or shoveling coal in two cases, falling on the hip or on the buttocks in three cases. a sudden catch after a heavy day's work in one case. In the remaining nineteen cases the onset has been gradual and the cause was probably a frequent occupational strain of the sacroiliac or lower lumbar region. Frequent heavy lifting, heavy carrying (peddler), working on a sewing machine (tailor), occupation as motorman or conductor on a street car (three cases), frequent bending forward (shoe-cleaner), frequent athletic strain in rowing, etc. In a few cases exposure to frequent change in extreme temperature was mentioned as a further cause.

Among the nine female patients one reported a certain sudden wrenching of the back, one a single and one a repeated fall on the hip. In two cases the affection was due to childbirth, and in four cases with a slow onset the cause was unknown. The deviation of the back was marked or extreme in twenty male patients; in nine of those with a definite traumatic cause and in eleven of those with a frequent occupational strain. Three of the female patients showed a marked. none an extreme deviation of the back. Of those three. one reported a fall on her hip and one childbirth as cause, while in one case the cause was unknown. Among the male patients the general health and appearance was good in sixteen cases, fair in ten cases and poor in five cases. Two patients were fat men with a marked protuberance of the abdomen. Among the female patients six presented a poor and three a fair general health and appearance, one patient was a stout woman. The direction of the deviation was toward the affected side in only four cases, all being men. Two had reported a definite and two an indefinite traumatic cause.

Among the male patients seventeen presented a very flat or obliterated lumbar lordosis and in five cases the lordosis was even reversed. Only three patients showed an increase of the lumbar lordosis, while in six cases no note has been made. Among the female patients two presented a diminished, two a reversed and three an increased lordosis; in two cases no note has been made. Among the male patients with a definite traumatic cause the result of the treatment was satisfactory or good in six cases and not satisfactory in four cases. In two cases a distinct relief was noticed, but was not constant. Among the male patients with an indefinite cause the result of the treatment was very satisfactory in three cases only, a certain improvement. was reported in four cases. inconstant improvement in one case. In eight cases the result was unsatisfactory; in six of them the time of treatment has been several months up to one and one-half years. In four cases no notes have been made as to the result. two of them being under observation only one or a few days. Among the female patients four showed a satisfactory result, three some improvement and two, both with a slow onset. no improvement. With a few exceptions it is noticed that the time between the onset of the disease and the treatment at the hospital has been much shorter in those cases which showed a satisfactory result than in the others.

4. Seashore Treatment of Osteomyelitis.—Hammond does not advocate non-surgical treatment because he says practically every case needs surgical interference, and should be treated according to its needs, whether it be the simple curetting of a sinus or the removal of the entire sequestrum, performed at the proper time as indicated by the studies of Nichols. After the surgical operation has been performed, however, there is nothing, in Hammond's opinion, which contributes so much to the upbuilding of the patient's general health and firm closure of the sinuses as a prolonged residence at the seashore with sea-bathing and exposure of the body to sunlight. He cites five cases.

5. Treatment of Congenital Flat-Foot.—Legg transplants the tendon of the tibialis anticus to the periosteum on the under surface of the scaphoid. With a dry dressing over the incision the foot is put up in plaster in a slightly overcorrected position from the toes to the knee. It is Legg's practice to keep the foot in plaster for nine to ten weeks and then allow walking, supporting the arch for about two months by a felt pad. Massage without manipulation and hot and cold showers are ordered as soon as the plaster is removed. It is most important that the operation should be done at about the fourth or fifth year to obtain the best results.

American Journal of Public Health, New York

April, III, No. 4, pp. 297-412

10 The Negro: His Relation to Public Health in South. C. E. Terry, Jacksonville, Fla.
11 Classification of Health-Board Expenditures. M. N. Baker, New York.
12 Collection and Disposal of City Waste and Public Health. P. M. Hall, Minneapolis.
13 Need for More General Cooperation between Health and Police Departments. S. M. Gunn, Boston.
14 Tuberculosis, a Public Health Problem. R. H. Bishop, Cleveland.
15 Public Dump and Public Health. C. E. Terry, Jacksonville, Fla.
16 Some Newer Problems and Newer Phases of Antituberculosis Warfare in United States. S. A. Knopf, New York.
17 Standard Methods for Bacteriologic Examination of Water. E. M. Chamot, Ithaca, N. Y.

Boston Medical and Surgical Journal

April 24, CLXVIII, No. 17, pp. 601-636

18 Trichinosis. T. F. Leen, Boston.
19 *Diagnostic Significance of Leukocyte Count in Osteomyelitis and Tuberculosis of Bones in Childhood. E. W. Fiske, Boston.
20 Aspects of Milk Supply: Some Features of Milk Situation. J. O. Jordan, Boston.
21 Idem: Production of Certified Milk. J. A. Foord, Amherst, Mass.
22 Idem: Medical Milk Commission of Boston. R. L. De Normandie, Boston.

19. **Leukocyte Count in Osteomyelitis and Tuberculosis of Bones.**—The routine examination by Fiske, of children with tuberculosis of the bones and osteomyelitis, two-thirds of the cases in both diseases being in an acute stage, showed an average white count of 11,600 for the former and 16,200 for the latter, a significant difference of about 5,000 leukocytes. That this difference is constant, and is a reliable factor in diagnosis, is shown by the fact that in osteomyelitis but 24 per cent. of the counts were below 12,000 as compared with 66 per cent. in tuberculosis, while 39 per cent. of the former were over 18,000 and but 13 per cent. of the latter over 15,000. This difference is still more emphasized in the acute cases, which make up the majority seen in hospital practice, the average for osteomyelitis being 22,200 and for tuberculosis 11,400, a difference of nearly 11,000.

The conclusion drawn by Fiske from this series is, therefore, largely a confirmation of the well-known theory that leukocytosis does not occur in bone infection by the tubercle bacillus, but only in the presence of a pyogenic organism. Cases which are clinically tuberculous, and have a high white count, must find their explanation in some other focus of infection, or in a mixed infection at the original site. The only cases offering difficulty in diagnosis from the white count alone are those cases of osteomyelitis with a normal count or very low leukocytosis, which are commoner than most text-books affirm. In these, the relation of the count to other symptoms, such as the fluctuation of the count with the temperature or with the general condition (a relation which does not exist in bone tuberculosis), the presence of a freely draining bone abscess, especially if the count is low following operation, or the existence of a long standing, low grade process in a case in which the count has been at one time high, should point to a diagnosis of osteomyelitis, to be readily confirmed by other diagnostic data.

Bulletin of American Academy of Medicine, Easton, Pa.

April, XIV, No. 2, pp. 113-184

23 Relation of Foreign Population to Mortality and Morbidity Rate of Philadelphia. L. J. Hammond and C. H. Gray, Philadelphia.
24 Teaching of Social Ethics and Its Relation to Conservation of Child. W. S. Hall, Chicago.
25 Relative Physical Advantages of School Lunches in Elementary and Secondary Schools I S. Wile, New York.
26 Course in Hygiene and Sanitation in School of Medicine of Syracuse University. J. L. Heffron, Syracuse, N. Y.

Canadian Medical Association Journal, Toronto

April, III, No. 4, pp. 261-354

27 Some Clinical Observations on Arteriosclerosis. J. Third, Kingston.
28 Three Cases of Acromegaly with One Autopsy. E. J. Mullally, Montreal.
29 Abdominal Injuries. A. MacKinnon, Guelph, Ont.

Georgia Medical Association Journal, Augusta

April, II, No. 12, pp. 379-408

30 Drainage Sequent to Certain Surgical Procedures. J N. Ellis, Atlanta.
31 *Psychoses Accompanying Pellagra. E. M. Green, Milledgeville.
32 Case Histories in Neurology. L. M. Gaines, Atlanta.
33 *Parsimony in Nutrition. G. M. Niles, Atlanta.
34 Twin Pregnancy in Double Uterus. J. G. Earnest, Atlanta.
35 Cystoscopy as Aid in Surgical Diagnosis. W. S. Goldsmith, Atlanta.
36 Case of Splenomyelogenous Leukemia with Unusually High Leukocyte Count. W. H. Malone, Marietta.

31 and 33.—Abstracted in The Journal, June 8, pp. 1779 and 1782.

Indiana State Medical Association Journal, Fort Wayne

April, VI, No. 4, pp. 147-200

37 Making of a Specialist. J. F. Barnhill, Indianapolis.
38 Bronchoscopy and Esophagoscopy. A. E. Bulson, Fort Wayne.
39 *Phenolsulphonephthalein as Determinate of Kidney Function. H. K. Bonn, Indianapolis.
40 Treatment of Chancroids with Cocain. F. M. Freeman, Goshen.
41 Thyroidism and Clinical Significance of its Perversions. P. F. Martin, Indianapolis.
42 Anomalous Internal Carotid Artery. A. P. Roope, Columbus.

39. **Phenolsulphonephthalein.**—Bonn has made observations with this test on eight normal individuals, eight kidney cases and seven prostatic cases. He found that phenolsulphonephthalein appears in the urine of patients having apparently normal kidneys in from two and one-half to eleven minutes, when injected subcutaneously. In patients with renal lesions of varying severity, he found in two cases of marked kidney disturbance, the drug having been given intravenously, that the dye promptly appeared in two and one-half minutes. Again, in other cases having approximately the same condition of affairs present, the drug, given subcutaneously, did not appear for from fifteen to twenty minutes. Therefore, he does not consider the time of appearance of the dye to be of much value. It simply tells when one should begin the collection of urine for percentage estimation.

The dye was excreted at a fairly constant rate in normal individuals, the first hour averaging 39 per cent., and the second 17 per cent. The average excretion of the drug for two hours was 56 per cent. In cases of renal lesions, the output of the dye was considerably decreased except in one case, that of a renal sarcoma, in which the remaining kidney was evidently doing the work of both kidneys. These abnormal cases averaged 24 per cent. for the first hour of the test, and 10 per cent. for the second, the total output being 34 per cent. Therefore, Bonn believes that the phenolsulphonephthalein output is markedly decreased where there exist lesions of renal origin.

Since a large number of these cases presenting renal disturbance have been operated, following which marked improvement has taken place, Bonn does not think that a low percentage of elimination of this dye should absolutely forbid operation, or be an absolute deciding point as to operation. He believes that a good plan to follow is to order forced water and repeat the test within a week. If the percentage of elimination has remained about the same, the probability is that the kidney is working at its maximum and will, in all likelihood, withstand the anesthesia and operation satisfactorily. It is unnecessary to have the patient drink a quantity of water before the test is made, because if reflex anuria occurs, the inhibition will be bilateral and water may be given at any time. This fact may even help to accentuate the findings from a diseased kidney.

When ureters are catheterized, Bonn says, it is essential to use the flute-end catheters or Garceau's one-catheter cystoscope, else there will occur leakage around the catheters and so produce errors in the percentage of dye eliminated. It is preferable, with ureteral catheterization, to give the drug intravenously and to take the percentage of dye eliminated every fifteen minutes for forty-five minutes. It is obvious that in an intravenous injection part of the dye may either not be forced into the vein or may perhaps leak from it.

This fact should cause an early appearance time but a delayed excretion. This dye test seems to meet all of the conditions which Geraghty and Rowntree set up, although Bonn does not believe that a test of this sort will inform a surgeon whether a patient can be operated safely. The fact that the test is absolutely non-toxic and does not seem to burden the kidneys and can be almost entirely recovered from the urine is decidedly in its favor. However, he regards the phenolsulphonephthalein test as the most accurate one for the determination of renal function.

Iowa State Medical Society Journal, Clinton

April, II, No. 10, pp. 697-768

43 Bismuth Paste. J. C. Powers, Hampton.
44 Contusions of Eyeball. L. Weber, Davenport.
45 Value of Typhoid Vaccine in Prophylaxis and Treatment of Typhoid, and Its Method of Administration. L. Reppert, Muscatine.
46 *Increased Diet in Typhoid; Arguments For and Against. M. J. Kenefick, Algona.
47 Surgical Complications and Sequelae of Typhoid. J. C. Rockafellow, Des Moines.
48 Perforative Lesions of Intestine: Problems of Their Early Diagnosis and Treatment. A. J. Burge, Iowa City.
49 Value and Efficiency of Tuberculin Tests. H. V. Scarborough, Oakdale.

46. Abstracted in THE JOURNAL, May 25, 1912, p. 1629.

Kentucky Medical Journal, Bowling Green

April 15, XI, No. 8, pp. 307-338

50 Tubal Pregnancy. S. T. Yeatts, Louisville.
51 Appendicitis; Report of Fatal Cases. E. S. Allen, Louisville.

Medical Record, New York

April 26, LXXXIII, No. 17, pp. 737-782

52 What is Psychanalysis? E. W. Scripture, New York.
53 Gastralgia Nervosa and its Differential Diagnosis. J. Gutman, Brooklyn.
54 *Albumin Analysis of Sputum. J. Ritter, Chicago.
55 Epilepsy. C. R. M'Kinniss, Norristown, Pa.
56 Management of Puerperium and its Minor Abnormalities. B. A. Fedde, Brooklyn.
57 Early Diagnosis of Tuberculosis and Internal Antisepsis. C. Am Ende, New York.

54. **Albumin Analysis of Sputum.**—Ritter advocates that the examination of the sputum should become a routine method in every suspected or positive tuberculous case. The test is made as follows: Put 5 c.c. of sputum into a glass cylinder of about 25 c.c. capacity (glass cylinder must be supplied with a well-fitting ground-glass stopper), add 5 c.c. of distilled water and about 10 drops to 1 c.c. of glacial acetic acid, replace the stopper, shake well, and set aside. Shake occasionally during the next twenty or thirty minutes, then proceed to filter. If the sputum is suitable for filtration it will have separated into three distinct layers reminding one very much of an expressed stomach content ready for testing. Should the middle or watery portion of the sputum solution be still a little opaque, showing the presence of some remaining unprecipitated mucin, add a few drops more of the glacial acetic acid, again shake well and set aside as before. The fluid portion now appearing clear, proceed to filter it through a plain wetted filter and test the clear filtrate for albumin in the usual way by either Heller's test or the heat test, both of which are very satisfactory.

Ritter has found the ferrocyanid test the most reliable and accurate. If to an albuminous solution of sputum in a test tube a drop of 10 per cent. ferrocyanid of potassium solution is added, an approximate idea of the amount of albumin can at once be gathered by observing the drop of ferrocyanid solution carrying down the precipitated albumin and one can also notice the difference between a massive albumin content and one in which only a small amount of albumin is present by the manner in which the precipitated albumin falls to the bottom. Ritter says that if the chemical examination of the sputum is albumin positive but tubercle bacilli negative with physical findings obscure and indistinct, the intradermal injection of tuberculin will often change both to positive. A positive albumin reaction and a positive tuberculin test are of far more importance diagnostically than the negative clinical examination, also the negative value of the albumin and the tuberculin tests are of far greater, of more positive value, than the negative clinical examination, because a negative clinical diagnosis may still be doubtful, may not be positively negative. A single positive sputum finding cannot be considered positively and diagnostically tuberculous but a single negative albumin reaction can assuredly be considered as non-tuberculous. A negative sputum for albumin is also microscopically negative for the tubercle bacilli: usually with the open or infectious cases both albumin and bacilli will be found in the sputum, while in the closed or non-infectious cases albumin minus the bacilli will be present. The positive albumin reaction is a sure indication of an inflammatory invasion of the pulmonary parenchyma which may be tuberculous, pneumonic or congestive, and the reaction is always negative when the inflammatory process has not affected the substance of the lung as in acute and chronic bronchitis and asthma, hence the reaction is of most importance in those cases in which the pulmonary infection is not yet manifest and the differential diagnosis lies between tuberculosis and simple bronchial catarrh. Albumin in the sputum is often the forerunner of the tubercle bacillus and albumin may be found in the sputum many months before the bacilli make their presence known, hence a positive sputum content with but meager or very slight physical findings and negative bacilli favors a possible incipient or pre-incipient tuberculous diagnosis, and like all clinical signs it must be considered with all the other signs, including both subjective and objective, to arrive at positive conclusions.

Military Surgeon, Chicago

April, XXXII, No. 4, pp. 327-425

58 Some History of Annual Report of Surgeon General, with Extracts. A. G. Love, U. S. Army.
59 Proposed Method of Pitching and Striking a Field Hospital Rapidly. W. W. Reno, U. S. Army.
60 Indian Medical Service. H. W. Jones, U. S. Army.
61 Ill Effects of Smoke on Health and Comfort. J. B. Stoner, Washington, D. C.

New Jersey Medical Society Journal, Orange

April, IX, No. 11, pp. 545-598

62 Physician as Public Servant. G. K. Dickinson, Jersey City.
63 Gunshot Wounds of Abdomen in Civil Practice. F. R. Haussling, Newark.
64 Eugenics. W. P. Melcher, Mt. Holly.
65 Pulmonary Embolism. J. A. Maclay.
66 Abdominal Cesarean Section. E. A. Ill, Newark.

New York Medical Journal

April 26, XCVII, No. 17, pp. 853-904

67 Roentgen Rays in Inoperable Primary Carcinoma of Breast: Report of Twelve Cases. G. E. Pfahler, Philadelphia.
68 Intravesical Diagnosis and Treatment. L. Buerger, New York.
69 Operation, When Required, in All Common Rectal Diseases, without General Anesthesia or Pain. W. F. Burrows, New York.
70 Case of Vitiligo. N. T. Beers, New York.
71 Orbital Cellulitis. A. Wiener, New York.
72 Thyroid Medication in Children. M. B. Gordon, New York.
73 Newer Teachings of Diseases of Gastro-Intestinal Canal. M. I. Knapp, New York.
74 Electricity in Rectal Diseases. F. H. Williams, Boston.
75 *Treatment of Tuberculous Bone Abscesses and Sinuses with Tuberculin. W. S. Niblett, Baltimore.
76 Ointment in Granulating Wounds; Treatment. G. B. Massey, Philadelphia.
77 Syphilis. H. M. Greene, Portland, Ore.
78 Morphin in General Practice. C. J. Douglas, Boston.

75. **Tuberculous Bone Abscesses.**—In all his cases of this kind Niblett has been systematically using old tuberculin locally with good results since August, 1911. He says it is very stimulating to the sluggish granulations and converts the creamy pus into serosanguineous pus. After two or three injections the sinuses appear healthier and the discharge is markedly decreased.

The technic consists of the injection of about 120 minims of 1 to 500 old tuberculin solution into the depths of the sinus by means of a syringe or a small, soft rubber catheter, which is withdrawn as the injection is made, in the endeavor to bring the tuberculin into immediate contact with the walls of the sinus. After three or four injections the strength of the tuberculin is increased from 1 to 500 to 1 to 250, or even 1 to 50. This is governed by the reaction, both local and systemic. The 'njections are given biweekly. There is some systemic as well as local reaction after the first injection. The patient's temperature may reach 101 or 101.5 F., with some lassitude, but this is less marked after the first two or three injections, and usually disappears entirely after subsequent treatments. Great care must be taken to use weak tuberculin solution, as it is desirable to avoid a rise of temperature.

New York State Journal of Medicine, New York

April, XIII, No. 4, pp. 177-232

79 Perforated Duodenal Ulcer. N. Jacobson, Syracuse.
80 Perforating Duodenal and Gastric Ulcers. G. D. Gregor, Watertown.
81 Cancer Problem. L. R. Colegrove, Elmira.
82 Early Diagnosis of Intestinal Cancer. F. H. Nichols, Jamestown.
83 Pulmonary Tuberculosis of Pregnant Woman. A. Jacobi, New York.
84 Operative Surgery of Goiter. J. P. Marsh, Troy.
85 Goiter from Surgical Standpoint. W. Lathrop, Hazelton, Pa.
86 Accidents of Hernia Operation. D. R. Kathan, Schenectady
87 Means and Methods of Reducing Death Rate from Surgical Operations. M. Clinton, Buffalo.
88 Uses of Plaster of Paris as Surgical Dressing. H. F. Gillette, Cuba.
89 Einhorn Bead Test for Estimation of Digestion. W. G. Morgan, Washington, D. C.
90 Diet in Acute Disease. W. S. Gleason, Newburgh.
91 Case of Gonorrheal Conjunctivitis Aborted by Two Per Cent. Solution of Nitrate of Silver. J. H. Claiborne, New York.
92 Immuno-Therapy in Ophthalmology and Oto-Laryngology. R. L. Crockett, Oneida.
93 Hypertrophy of Pharyngeal Lymphatic Ring as Causative Factor in Production of Epileptic Equivalents. W. S. Daly, Ogdensburg.
94 "Taking the Cure" in California. C. B. Slade, New York.

Vermont Medical Monthly, Burlington

April, XIX, No. 4, pp. 79-104

95 Constipation. E. B. Watson, Williamstown.
96 Some Common Results of High Percentage of Fat Used in Infant Feeding. C. K. Johnson, Burlington.
97 Cardiac Disease with Special Reference to Treatment. J. P. Gifford, Randolph.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

April 12, I, No. 2728, pp. 753-804

1 *Rheumatoid Arthritis. J. Barr.
2 Various Forms of Fibrositis and Their Treatment. A. P. Luff.
3 *Types of Organism in Series of Bone and Joint Tuberculosis of Children. J. Fraser.
4 Clinical Demonstration of Operation for Prolapsus Uteri Complicated by Hypertrophy of Cervix. W. E. Fothergill.
5 "Suppurating" Branchial Cyst. C. A Robinson and G. W. Thomas.
6 Two Cases of Penetrating Wound of Heart Treated by Operation. E. De Verteuil.
7 Nascent Iodin Treatment of Lupus Nasi. P. W. Bedford.

1. **Rheumatoid Arthritis.**—The earlier the recognition of the disease, says Barr, the more successful the treatment. Attention should be first directed to the *prima via*, the teeth should receive scrupulous attention and all sepsis should be eradicated; the acid fermentation in the stomach should be eliminated, and this is most readily accomplished by cutting off all saccharin and farinaceous articles of diet, and placing the patient for a few days on an abundance of red meat with plenty of hot water. Red meat produces ammonia, which neutralizes the sarcolactic acid in the muscles; then milk to which some sodium bicarbonate and chalk or lime water have been added, junket and cream. Afterward green vegetables and farinaceous food, except oatmeal; a fair amount of fat should be given, especially olive oil or cod-liver oil; at least an ounce of one of these oils should be given every night at bedtime. Bacon gravy, fat bacon, cream, butter or margarine are valuable adjuncts, but beef and mutton fats had better be eschewed. The patient should take a liberal allowance of table salt with meals. All acids and acid fruits, rhubarb, tomatoes and asparagus should be avoided. When saccharoses are considered permissible, glucose and honey are better than cane sugar or jams, but perhaps a little marmalade may be allowed occasionally. When the patient is improving, grapes, bananas, nuts, stewed prunes and figs may be allowed; saccharin is better than sugar, more especially if the urine has become alkaline under treatment, and tends to deposit phosphates.

Regarding drink, there is nothing better than pure water, especially when hot, weak tea, milk and soda water (containing about 30 grains of sodium bicarbonate to the pint), plain barley water and raisin tea. Avoid all sweet and acid drinks, wine and malt liquors. Regarding alcohol, Barr thinks the patient is better without any, but if for any particular reason a little is ordered it should be in the form of whisky, gin, brandy, sloe gin or liqueur cognac. To correct the acid fermentation and improve the motor function of the stomach a good combination consists of bicarbonate, and 15 or 30 grains of aromatic chalk in a glass of milk about half an hour before meals, and a double dose at bedtime; often smaller doses suffice. An excellent stomachic of calcium chlorid hydrochloric acid and minute doses of the perchlorid of iron is very useful after meals; a small cholagogue pill should be administered regularly to keep the bowels open; for this purpose an excellent mixture can be made with the sulphate, bicarbonate and salicylate of sodium and liquorice.

It is imperative to get lime into the tissues and to lessen its elimination. For this Barr prescribes freely chlorid of sodium and potassium, sodium bicarbonate, chalk, lactate of lime and calcium glycerophosphate. If it be desired to get calcium rapidly into the tissues it may be given in a very dilute form subcutaneously, say a pint of sterile normal saline solution with 0.05 per cent. of calcium chlorid, and 3 per cent. of syrup of glucose. If the calcium chlorid be administered hypodermically in a concentrated form, it may readily produce gangrene of the skin and adjacent tissues. Iron is best administered in the form of underdone red meat, and yolk of eggs; arsenic, potassium iodid, guaiacol, and a host of remedies commonly prescribed are worse than useless.

Leukorrhea should be treated with injections, and any infection of the urinary tract should receive attention. Here vaccines will often prove useful, and the same may be said for pyorrhea alveolaris. General massage improves nutrition, and is highly beneficial; the hot air and electric light baths applied to affected joints often give much relief, but can scarcely be looked on as curative agents. Encourage the patient to take a fair amount of exercise short of fatigue when the disease has subsided, and to live hygienically.

3. **Types of Organism in Bone and Joint Tubercle.**—The proportion of bone and joint cases examined by Fraser was practically equal—thirty-nine were instances of joint disease, thirty-one of bone disease. The age incidence was absolutely limited to 12 years and under. In forty-one instances the bovine bacillus was present, in twenty-six cases the human bacillus occurred, and from the remaining three cases both human and bovine types were isolated. As a matter of routine, the family history was noted in each case investigated. In twenty-one instances there was a definite history of pulmonary tuberculosis having occurred in some member of the family in which the child lived, and in 50 per cent. of these cases the child was actually living in contact with a consumptive. The practical bearing is more evident when it is stated that out of the twenty-one above mentioned cases fifteen, or 71 per cent., were due to the bacillus of human tuberculosis. In fifty-two cases there was definitely stated to be no family history of tubercle; forty-three of these were bovine in origin, while only nine, or 17 per cent., were human. The difference is very striking, and the figures of the first group are explained by direct infection of the child from the consumptive patient with whom it stayed.

Practically speaking, Fraser says that the bovine bacillus is introduced into the body by a single route—that of infection from the alimentary tract, and the medium by which it is introduced is infected milk. As far as possible observations were noted of the source of milk supply in each of the above cases; twenty-five patients were nourished in infancy on human milk, forty-one were entirely fed on cow's milk; in three instances the source of origin was doubtful. Of the twenty-five patients brought up on human milk, in only six cases was the bovine bacillus found. The remaining nineteen were infected with the human type. In the second group, those nourished on cow's milk, out of a total of forty-one, no less than thirty-seven were due to infection with the bovine bacillus. The remaining four were human. In the complete series there were four children less than 1 year old. All these children were nourished on cow's milk, and in every case the bovine bacillus was the organism present. It is interesting to note that in no instance was any attempt made to sterilize or pasteurize the milk.

Clinical Journal, London

March 26, XLI, No. 25, pp. 385-400

8 Abdominal Injuries. V. Z. Cope.
9 Calculus in Upper Urinary Tract. F. J. Steward.
10 Early Recognition of Pulmonary *Tuberculosis* F J. Wethered.

April 2, No. 26, pp. 401-416

11 Significance of Pain in Ear. M. Yearsley.
12 Calculus in Upper Urinary Tract. F. J. Steward.
13 Ethyl Chlorid Anesthesia. C. F. Hadfield

April 9, No. 1, pp. 1-16

14 Injuries to Semilunar Cartilages of Knee-Joint. R. Morison.
15 Treatment by Massage and Movement, Particularly in Relation to Fractures. R. C. Elmslie.
16 Diphtheritic Hemiplegia. J. D. Rolleston.

Lancet, London

April 12, I, No 4676, pp. 1007-1074

17 Relations of Medical Profession and Public. J. A. Lindsay.
18 *Effect of General Coatraction of Peripheral Blood-Vessels on Mouse Cancers. C. Walker and H. Whittingham.
19 Treatment of *Large Hernia.* A. E. Barker.
20 Three Cases of Polycythemia. T. K. Monro.
21 *Series of 236 Cases of Total Enucleation of Prostate Performed during Two Years, 1911-12. R J. Freyer.
22 Congenital Stricture of Lower End of Esophagus. R. Morison and H. Drummond.
23 *Records of Four Unusual Recoveries in Cases of Mental Disease. L. C. Bruce

18. **Artificial Contraction of Peripheral Vessels in Mouse Cancers.**—The authors used pituitary extract and an ergot preparation. These two substances produced somewhat similar results to the substances used by Wassermann and by Neuberg and his collaborators. In the case of the pituitary extract, where the dose was larger and more injections were given, necrosis was induced as well as hemorrhages, and the growth of the tumor was apparently checked in a large proportion of cases. The authors suggest that in view of their experiments the probable explanation of the results obtained with the other substances used by Wassermann and Neuberg and his collaborators is a mechanical one, although, as the substances they used were highly toxic, their results, in the case of the animals that survived the treatment, were more perfect. They believe that it is possible that something might be done toward producing an effect on cancer cells by injecting substances which will tend to kill the cells, in combination with something which will contract the blood-vessels of the body. The passive dilatation of the vessels in the tumor should collect the toxic substance there, though, of course, it will be diffused over the whole body to a less extent. There is no evidence that Wassermann's or any of the other substances used have any specific action on cancer cells, as the contraction of all the blood-vessels excepting those in the tumors accounts for all the results that have been obtained.

21. **Total Enucleation of Prostate.**—Reviewing briefly his experience of this operation to the end of 1912, comprising 1,036 cases, Freyer states that the patients varied in age from 49 to 90 years, with an average age of 69¼ years. There were among them sixty-five octogenarians and eleven bordering on this age—viz., 79 years. The prostates removed ranged from ½ to 17 ounces in weight, the approximate average being 2¾ ounces Though the patients were, of course, mainly drawn from the British Isles, practically every nation and race on the face of the earth are represented. The great majority had been dependent on the catheter for periods ranging from a few days to twenty-four years. Most of them were in bad health and many were apparently moribund when the operation was undertaken. Few of them were free from one or more grave complications, kidney affections resulting from backward pressure on those organs and predominating. In the larger number existence was rendered so painful and miserable that they were prepared to face any risk from operation provided they could be assured that in case of survival they could dispense with the catheter.

In connection with these 1,036 operations there were fifty-seven deaths, or 5½ per cent., the remaining 979 cases, with the exception of one case, being completely successful. In only this one case has the patient failed to regain the power of voluntary mictuition, and in this instance the bladder was quite flaccid and seems to have been completely paralyzed by the extreme overdistention by the urine before the catheter was employed. With experience the mortality has gradually diminished from about 10 per cent. in the first 100 cases to a little over 4½ per cent. in the last 400. The causes of death were: uremia due to chronic kidney disease, 24; heart disease, 9; shock, 7; exhaustion, 3; septicemia, 3; mania (hereditary in one case), 2; *malignant* disease of the liver, 2; bronchitis, 2; pneumonia, 1; heart-stroke, 1; pulmonary embolism, 1; cerebral hemorrhage with paralysis, 1; and acute pancreatitis, 1.

In 190 cases the prostatic disease was complicated by the presence of stone in the bladder, mostly of the phosphatic variety due to cystitis. The operation in these cases partook of a dual character—prostatectomy in addition to suprapubic lithotomy. Among these there were 16 deaths (all of which have been accepted as resulting from the prostatectomy part of the operation), or 8.42 per cent. Among the remaining 846 cases uncomplicated with stone there were forty-one deaths, or 4.84 per cent., so that the mortality among the former was nearly double that among the latter. Freyer states that one of the most satisfactory features of this operation is that the patients, as a rule, state, after the lapse of months or even years, that they feel from ten to twenty years younger than before the operation. This remarkable rejuvenescence has so much impressed him that, apart from the physical pain and mental depression caused by the obstructive symptoms, he is persuaded that the enlarged gland pours into the system some internal secretion of a toxic or deleterious nature.

23. **Recoveries in Mental Disease.**—The records of Bruce's cases are of interest in so far that they demonstrate that even apparently hopeless cases of nervous and mental disease can never be safely pronounced incurable. CASE 1.—Patient, male, aged 30, labors under a mild type of imbecility, and was up to eight years ago a confirmed epileptic. His epileptic seizures commenced during infancy When he first came under Bruce's care in 1899, and up to 1904, his epileptic seizures were *very frequent, averaging between 200 and 300 each month.* The fits were both diurnal and nocturnal. During 1904 certain serum observations were made in order to test a statement made by Ceni to the effect that the serum of epileptic patients when taken from the body develops certain antibodies which when injected subcutaneously into the patient yielding the serum, or into other epileptic patients, have a curative power. The patient was asked to give serum for the purposes of the observation. This he readily agreed to do. During a period of six weeks blood to the amount of 40 c.c. was drawn from the median basilic vein once a week, so that during the six weeks he yielded 240 c.c. of blood. The curious fact is this, that from the day of the first bleeding up to the present (that is to say, during a period of eight years) the patient has never again suffered from a single epileptic seizure.

CASE 2.—Patient was a woman of 57 when she first came under Bruce's care. She suffered from recurrent attacks of *folie circulaire* mania with barely *recognizable periods of* depression. Each of the attacks of excitement lasted about six weeks, with varying intervals of sanity. Her first attack of excitement occurred when she was 27 years of age. During 1902 1903, 1904 and 1905 she suffered from frequent attacks of mania, the onset of each attack being preceded and accompanied by an attack of nasal catarrh. She presented no other physical symptoms beyond a recurrent hyperleukocytosis of from 12,000 to 20,000 per cm. which accompanied the attacks, and the presence of a specific agglutinin in her serum to a variety of streptococcus isolated from the blood of a case of acute mania. Her opsonic index to the same organism varied between 0.4 at the commencement of an attack to 2 at the termination of an attack.

Various attempts were made by means of injections of this streptococcus to produce immunity, but without effect, and no antibacterial substance could be demonstrated in her serum as the result of these injections. In October, 1905, it was decided to try the effect of feeding the patient on living cultures of the streptococcus which her serum agglutinated. The organism was grown in sterilized broth for forty-eight hours at 37 C. and then dispensed in 10-ounce bottles, of which she took one ounce thrice daily between meals, and this course was continued for six weeks. During this period her appetite and weight increased very markedly. At the end of the six weeks' course of treatment her serum was tested for immune body and was found to contain a specific bacteriolytic substance, which was demonstrated as follows: One part of a twenty-four hours' broth culture of the streptococcus was mixed with two parts of her serum; the mixture was drawn into a sterile pipet, which was sealed and placed in the incubator at 37 C. for three hours. A control of the serum of a healthy person was made at the same time. At the expiration of the three hours the contents of each pipet were spread on agar tubes and incubated. At the end of twenty-four hours' incubation it was found that in the tube inoculated from the patient's mixture of serum and broth culture there were only three colonies of organisms visible, while that inoculated with the pipet made from the control serum showed countless colonies. To prevent error the observation was repeated with a second control with the same result. From the date of treatment in October, 1905, to the date of discharge, December, 1907, the patient never suffered from another attack of mania, and up to the present time she has not had a relapse.

Case 3.—Patient, a woman aged 32, developed melancholic symptoms, with fixed delusions and marked impairment of nutrition at 30. She presented no physical disorder beyond the condition of malnutrition, a dry harsh skin, want of appetite, constipation and an irregular hyperleukocytosis of from 12.000 to 17.000 per c.m, the increase being chiefly in the polymorphonuclear cells. All sorts of remedies were applied in her case; she was treated with thyroid, hot baths, injections of cinnamate of soda and various vaccines with practically no effect. At the end of March, 1910—i. e., four years after the onset of her illness—she contracted scarlet fever. The fever was of a mild type with little constitutional disturbance, the highest temperature recorded being 101 F. As she convalesced from the fever a marked physical and mental improvement was noticeable, and by the end of April she had recovered. She has shown no signs of relapse up to the present time.

Case 4.—A woman, aged 27, became insane in May, 1904. She was morose, impulsive, absolutely intractable. She suffered from delusions of identity. At frequent intervals she was impulsive, suddenly attacking fellow patients or members of the staff, and these attacks were, so far as one could judge by her disjointed speech during these outbursts, directly the result of the delusions of identity she labored under regarding the persons she assaulted. No change was noted in her condition until May 5, 1908, when she was reported as having been found in an unconscious state in her bed in the morning. On examination she presented all the symptoms of a cerebral hemorrhage being completely paralyzed on the right side. When she recovered consciousness it was also noted that she was aphasic. Following on the seizure she developed a high temperature, which ran as high as 104 F., and this pyrexia, which was remittent in character, lasted for three weeks. At the end of the three weeks the paralysis was passing off and the power of speech was returning. Five weeks after the date of onset of the seizure she spoke quite clearly and collectedly. Further inquiries elicited the fact that her mind was a perfect blank for a period of four years—that is to say, from the date of the onset of the attack in May, 1904, to the convalescence from her cerebral hemorrhage in June, 1908. She made an excellent recovery.

* Medical Press and Circular, London

March 26, XCV, No. 3855, pp. 321-348

24 Intestinal Obstruction. J. E. Adams.
25 Location of Pus in Hand. A. A. McConnell.
26 Removal of Foreign Bodies from Cornea and Conjunctiva. C. H. May.
27 Syphilitic Disease of Bones and Joints in Children. O. L. Addison.
28 Spinal Analgesia—Development and Present Status of Method; with Brief Summary of 1,065 Cases. W. S. Bainbridge.

April 2, No. 3856, pp. 349-374

29 Extra-Uterine Pregnancy. H. R. Andrews.
30 Diagnosis, Prognosis and Treatment of Neurasthenia. J. S. R. Russell.
31 Tabes Dorsalis Without Lymphocytosis. T. A. Williams.

April 9, No. 3857, pp. 375-402

32 Extra-Uterine Pregnancy. H. R. Andrews.
33 Early Diagnosis of General Paralysis. G. M. Robertson.
34 *Gonorrheal Vaginitis Treated by Vaccine. G. Fitzgibbon.
35 Treatment of Cancer by Colloid Copper. G. Herschell and R. J. Cowen

34. **Gonorrheal Vaginitis Treated by Vaccine.**—Of Fitzgibbon's six gonococcal vaginitis patients, three were children, one an adult with recent infection, probably of not more than four weeks' duration, and two were adults with chronic infection, which had existed for at least twelve months. Four of the cases cleared up uninterruptedly from the beginning of treatment, the other two improved but again relapsed; one of these finally became perfectly cured in so far as the absence of any sign of inflammation or discharge for a period of two months after cessation of treatment can be considered proof of cure. The sixth case became perfectly clear of inflammation and free from discharge for three weeks, but again relapsed and is still under treatment. Besides the treatment by vaccine inoculation, Fitzgibbon regularly carried out local treatment every second day in the early cases until there was a marked improvement as shown by the decrease of discharge and inflammation, and twice a week after that until cured, and he believes this is important and necessary—certainly in the chronic cases, as there is generally a condition due to mixed infection. In the case of children the infection may be, and often is, one of pure gonococci, and in these vaccine may be sufficient alone; but Fitzgibbon prefers to combine it with local treatment in the form of antiseptic swabbing and douching.

The local treatment he used in all cases was biniodid of mercury, 1:500 to 1:1,000, swabbed thoroughly through a Ferguson's speculum, or in the case of children douched through a speculum; and when there was erosion of the cervix the application of pure phenol. In one acute case in an adult he commenced by tamponading the vagina with iodoform gauze every second day for the first ten days, leaving the gauze in place for twenty-four to thirty hours. Fitzgibbon does not consider that the particular form of local treatment which he adopted has any special benefit in itself beyond promoting and maintaining a cleaner condition of the parts than would exist without it, and in being germicidal to other organisms which may be present in cases of mixed infection, but he thinks some local treatment on these lines should be regularly adopted.

Annales de Gynécologie et d'Obstétrique, Paris

March, XL, No 3, pp. 129-192

36 Histologic Study of Ovarian Pregnancy. (Les Grossesses ovariennes jeunes.) H. Paucot and A. Debeyre.
37 *Danger in a Future Pregnancy Another Argument in Favor of Nephrectomy for Unilateral Tuberculosis of the Kidney. A. Spire and A. Bœckel.
38 Roentgenotherapy of Uterine Fibroma. (Traitement des fibromyomes de l'utérus par les rayons x.) D Chilaiditis and G. Stavrides.

37. **Nephrectomy from Obstetric Standpoint.**—Spire and Bœckel report experiences from their own practice and that of others showing that nephrectomy does not seem to affect the course of pregnancies later. Andrews has reported a case in which the woman passed through five pregnancies after nephrectomy, and Hartmann has reported 150 pregnancies in 115 women after nephrectomy with only three deaths; in two of the fatal cases the remaining kidney was known to have been diseased In their three personal cases there was no trace of

albuminuria at any time during the pregnancy, delivery occurring without difficulty from twenty months to three years after the operation. Nephrectomy has been done in the course of a pregnancy in several cases without interrupting it. The fact that a pregnancy later is not interfered with by the absence of one kidney they regard as another argument in favor of operative treatment of unilateral renal tuberculosis. The pregnancy is almost certain to aggravate a renal tuberculous lesion, while the renal tuberculosis in turn has an injurious influence on the pregnancy. Lactation is contra-indicated in case of renal tuberculosis while after nephrectomy there is nothing to prevent the mother nursing her babe.

Archives Générales de Chirurgie, Paris

March, VII, No. 3, pp. 257-384

39 Treatment of Injury of the Venous Sinuses of the Skull M. Auvray.
40 Modified Technic for Roux' Gastrojejuno-Esophagostomy. G. Uffreduzzi and J. Giordano.
41 Superficial Gangrene After Application of Lead Carbonate Salve. P. Mauclaire.

Archives Générales de Médecine, Paris

March, XCII, No. 3, pp. 197-288

42 *Measurement and Charting of Curvature of the Spine. (Mesure et representation des courbures dans les déviations de la colonne vertébrale.) Vital-Badin.
43 *Artificial Pneumothorax in Pulmonary Tuberculosis. (Le traitement de la tuberculose pulmonaire par la méthode de Forlanini.) E. Leuret.
44 *Respiration Exercises. (La méthode de l'exercice physiologique de respiration et les différentes variétés de gymnastique respiratoire.) G. Rosenthal
45 *Treatment of Tuberculosis with Attenuated Tubercle Bacilli Treated with Sodium Fluorid. (Immunisation antituberculeuse.) G Rappin.

42. **Measurement of Scoliosis.**—Badin gives an illustrated description of his "scolio-ometer" and emphasizes the importance of the findings for estimation of the primary condition and progress of the curvature.

43. **Artificial Pneumothorax.**—Leuret describes the technic for induced pneumothorax and states that he has been systematically examining all his patients with pulmonary tuberculosis to discover those in whom it might be possible to induce the pneumothorax. He found only twelve in his eighty-six latest cases in which there was any possibility of applying the technic, and in the twelve favorable conditions were encountered in only three. He suggests that it might be wise to extend the application of the method to the chronic form of pulmonary tuberculosis when a severe acute exacerbation in one lung is causing great disturbance which might be temporarily arrested by compressing the lung in this way for a couple of months. His results with the method in general were such that he regards it as being far from suitable for a routine procedure, but in occasional cases it may prove effectual when otherwise the patients are doomed.

44. **Exercises in Breathing.**—Rosenthal emphasizes that the normal functioning of a machine wears it out less than when there is a screw loose or it is out of gear, and with a living machine there is not only the minimum of wear with normal functioning but the normal development of the organ is further promoted thereby. The respiration should be through the nose, ample, complete, rhythmical, and it may often be wise for the physician to give the patient a course of lessons in physiologic breathing, supplemented by general hygiene and means to strengthen the nervous system and harden the muscles and the skin. He has worked out a special system for respiratory exercises.

45. **Vaccination Against and Treatment of Tuberculosis.**—Rappin has reported a number of times on his method of treating and immunizing against tuberculosis by a vaccine made from attenuated tubercle bacilli deprived of their protecting envelop by treatment with sodium fluorid. He has been cultivating since 1894 the strain of bacilli he uses and this is his fourth report on the subject. His experimental research has been extremely encouraging, he says; guinea-pigs bore without harm above the fatal dose of tuberculin when it had been first mixed with his vaccine.

Archives Internationales de Chirurgie, Ghent

VI, No. 1, pp. 1-132. Last indexed Oct. 19, 1912, p. 1392

46 *Horse-Shoe Kidney. C. Beyer Commenced in last volume.
47 An American Surgeon's Opinions of the Open or Operative Treatment of Closed Fractures. J. B. Roberts.
48 *Histogenesis of Experimental Production of a Joint by Interposition of Foreign Body in a Fracture. (L'istogenese della cavita articolari di neoformazione.) G. Bolognesi.

46. **Horse-Shoe Kidney.**—Beyer gives summaries of 264 cases he has found on record and discusses the possible disturbances from this anomaly and the best methods for diagnosis and correction. He emphasizes the importance of suspecting a horse-shoe kidney in all cases of abdominal tumors or urinary disturbances.

48. **Articulations Produced Experimentally in Fractured Bones.**—Bolognesi's article is accompanied by twelve plates showing the processes and tissues involved in the joint-like structure which is liable to develop between the stumps when a foreign body is introduced into a fracture.

Archives des Maladies de l'App. Digestif, Paris

March, VII, No. 3, pp. 121-180

49 Influence of the Bile on Putrefaction in the Intestines. H. Roger.
50 Chronic Amebic Dysentery and Its Treatment. G. Friedel.
51 Microscopic Examination of the Stools with the Polariscope. Wasserthal and Goiffon.
52 Comparison of Acute Colitis in Children and in Adults. A. Mathieu

Archives des Maladies du Cœur, etc., Paris

April, VI, No. 4, pp. 225-304

53 *The Diet in Cardiovascular Disease. (Du régime diététique dans les affections cardio-vasculaires.) H. Vaquez.
54 Causes of Flint's Murmur. (Pathogénie du souffle de Flint. (Insuffisance aortique et rétrécissement mitral relatif.) M. Carrieu and J. Anglada.
55 *Secondary Polycythemia and Heart Disease. (Signification pronostique de la polycythémie secondaire dans les affections cardio-pulmonaires.) F. P Weber.
56 *Necessity for Identical Conditions in Comparing Blood-Pressure Findings* (Des mensurations de pression dans les artères des membres inférieurs.) J. Heitz.

53. **The Diet in Cardiovascular Disease.**—Vaquez expatiates on the importance of modifying the diet to meet the indications in each case so as to relieve the system of all extra work and spare weak organs. We now are able to determine with precision the exact articles of food which can or cannot be eliminated with ease and those which the organism is unable to eliminate in certain conditions. We should not be guided by empiricism but by clinical observation and laboratory findings. The Karell diet is an example of empiric inaccuracy: By restricting the patient to milk alone and very little of that, we of course save the patient from the effects of ingestion of salt and of too much fluid and nitrogenous substances. The patients benefit by this but they suffer from the inadequate nourishment, and those who are able to take care of salt or fluids or nitrogenous substances, as the case may be, do not need this wholesale deprivation. He says it reminds him of Lauder Brunton's remark that physicians sometimes hide their inexperience behind a shotgun prescription thinking that the more substances they prescribe the better chance there is of some one of them answering the desired purpose. By reducing at the same time the intake of fluids, of sodium chlorid and of albumin, Karell and his imitators seem to apply this same principle. We should distinguish between the patients who need to have the intake of fluids reduced and those who are unfavorably affected by salt or by albumin. Vaquez adds in conclusion that those physicians who say that dieting in heart disease is nonsense, generally are blessed with unusually good stomachs themselves. By determining in each individual case the exact restrictions which it is necessary to impose and which can be avoided, the rest of us show evidence of a good heart at least.

55. **Secondary Polycythemia and Heart Disease.**—Weber reports eleven cases of polycythemia secondary to a cardiovalvular affection. He regards it as a sign of serious conditions when it is accompanied by severe cyanosis. Prolonged rest in bed and small doses of potassium iodid, heart tonics, diuretics and expectorants, oxygen and venesection may prove useful.

Archives de Médecine des Enfants, Paris

April, XVI, No. 4, pp. 241-320

57 The Blood and the Bone Marrow Changes in Infantile Scorbutus. (Hématologie et altérations ostéo-médullaires dans la maladie de Barlow.) P. Nobécourt, L. Tixier and Maillet.
58 *Acute Colitis in Children. V. Hutinel and P. Nobécourt. Commenced in No. 1.
59 Remineralization in Treatment of Pulmonary Tuberculosis in Children. (Traitement de la tuberculose pulmonaire de l'enfant par la méthode de Ferrier.) Galliot.

58. **Acute Colitis in Young Children.**—Hutinel and Nobécourt emphasize the importance of prophylaxis of intestinal derangement by general hygiene of the diet, avoiding abuse of eggs, milk and meat, treating constipation and stimulating the digestive glands and the liver and nutrition in general, regulating functioning of the nervous system, disinfecting the throat and keeping the children away from contact with others suffering from enteritis. They do not regard infection as the cause of acute colitis in young children but as the result. In treatment the aim should be to clean out the intestines and stomach and modify the mucosa. When the acetone odor of the breath, the constipation and fetid stools warn of the acute colitis, nothing but water should be allowed the child. The stomach and intestines should be cleared out by lavage and sodium sulphate should be given; from 5 to 15 gm. the first day and then from 1 to 5 gm. daily for a week. Castor oil may also be needed. Abdominal pain is relieved by moist heat or the ice bag or a small enema of one or two tablespoonfuls of water with from one to three drops of laudanum. To modify the mucosa, small hot enemas of silver nitrate at 0.2 per thousand or of ipecac, 1 or 2 gm. of powdered ipecac infused in 200 gm. of boiling water. Or the ipecac can be taken by the mouth in the dose of from 0.2 to 1 gm. infused in 100 or 200 gm. of sweetened water. A teaspoonful of this infusion is given every two hours until the stools grow more normal. The child should be allowed nothing but an occasional sip of ice water if there is much vomiting. If not, ordinary water or Heim and John's solution: 5 gm. sodium chlorid and 5 gm. bicarbonate to the liter of water. This restriction to water alone is maintained for from two to six days or more. Feeding is then commenced cautiously with rice water or barley water or a vegetable bouillon; then follow with tapioca or soft mashed potato or even chicken broth free from fat. Milk should be resumed later and very cautiously; it is better to give it cooked in a gruel than as milk. In severe cases buttermilk may be preferable. Not until recovery is complete should meat or eggs be allowed and then very cautiously, one egg yolk in a pudding. Colitis as a mere complication of an infectious disease and not due to errors in diet does not require such strict dieting. The digestion during convalescence should be stimulated with Vichy water which acts on the liver, pancreatin, or extract of bile or of the gastric juice, according to the individual conditions; epinephrin may be useful. Serotherapy is not required in this form of colitis. The symptoms with acute colitis show the multiple factors at work, the general infection, the intoxication from the abnormal products being generated in the intestine, the organic injuries resulting from this toxic action, the defective digestion and assimilation of the food, and possibly also anaphylaxis phenomena. The child must be carefully supervised afterward that chronic colitis may not become installed. Older children may develop a chronic mucomembranous colon affection, of primary inflammatory origin, the same as adults.

Bulletins de la Société de Pédiatrie, Paris

March, XV, No. 3, pp. 109-202

60 *Sugar in Treatment of Uncontrollable Vomiting in Infants. (La modification du lait par l'hypersucrage—saccharose—dans les dyspepsies infantiles.) Variot, Lavialle and Rousselot.
61 *Treatment of Scoliosis from Malformation of Fifth Lumbar Vertebra. Nageotte-Wilbouchewitch.
62 *Infant Wards in Public Hospitals. (Rapport sur les améliorations à apporter au fonctionnement des crèches d'hôpital.) H. Triboulet.
63 *Abscesses in Pott's Disease. (La fréquence de l'abcès dans le mal de Pott dorsal.) C. Roederer and A. Weil.
64 Congenital Scoliosis. Lance.

60. **Sugar in Treatment of Uncontrollable Vomiting in Infants.**—Fifteen new cases are here added to the twenty previously reported confirming the prompt sedative action of much sweetened condensed or ordinary milk on the most tenacious and inveterate vomiting in young infants. Almost the only failure was in a child with congenital stenosis of the pylorus. The milk is heated and about 10 per cent. of sugar is added, to sweeten it about the same as condensed milk. The aspect of the casein in condensed milk and in this highly sweetened milk is entirely different from that of the casein of ordinary raw milk; the aspect is more like that of human milk. There is evidently, it is stated, some chemical action on the albuminoids of the milk from the large sugar content under the action of heat.

61. **Scoliosis.**—This author says that radiography has shown that scoliosis from malformation of the fifth lumbar vertebra can be corrected by raising the foot on the other side. The slanting of the pelvis induced by having the child wear something to raise one foot higher might do harm in older children. This emphasizes the importance of closer study of scoliosis in quite young children to permit proper measures for correction in time. The young and malleable vertebra yields to the action of the weight of the body when the foot is thus raised, gradually restoring the symmetry of the fifth vertebra or developing a compensating malformation in the fourth.

62. **Infant Wards in Hospitals.**—Triboulet deplores the high mortality in the infants received into public hospitals, and insists on the necessity for putting an end to the present promiscuous environment. The infant ward should admit only infants with acute infectious disease or affections which cannot be treated elsewhere. No normal infants or subnormal and none with simple malnutrition should be admitted to the hospitals; they should be accommodated elsewhere. As infants are exceptionally susceptible to infection, they should be protected with special care against the numerous microbian contacts of the hospital environment, and hence isolation with the box system for each infant separately is absolutely indispensable. He thinks that there should be a nurse for each three infants in the ward, and pecuniary support should be given to the families who take their convalescent infants home early. The hospital infant ward should be only for case requiring a brief stay.

63. **Abscesses in Pott's Disease.**—Roederer and Weil during the last two years have been systematically examining with the Roentgen rays every child with tuberculosis of the spine and they have been surprised at the large proportion of cases in which shadows were found around the vertebral focus. In some, the Pott's disease was of long standing, in others of recent date, and in others merely suspected. They give severa radiographs and call attention to the ease with which these abscesses can be detected by radioscopy before they induce any symptoms. These findings also emphasize the necessity for prolonged supervision after apparent healing of a vertebra process; with the present technic it is impossible to distinguish by radioscopy between incipient and florid abscesses or the cicatricial changes left after healing of an abscess in this region.

Journal de Médecine de Bordeaux

March 30, XLIII, No. 13, pp. 195-208

65 *Tardy Recurrence of Uterine Cancer. A. Charrier and A. Parcelier.
66 Workmen's Compensation. (Les expertises en matière d'honoraires d'accidents du travail.) H. Verger and others.

April 6, No. 14, pp. 209-224

67 *Ipecac in Digestive Disturbances in Young Children. (Des remarquables effets de l'ipéca à toutes petites doses dans certains troubles digestifs tenaces de l'Enfance.) R. Saint Philippe.
68 *Treatment of Postoperative Peritonitis. Colin.

65. **Recurring Cancer of the Uterine Cervix.**—In the case reported in a woman of 35 a typical cauliflower cancer of the cervix filled almost the entire vagina and immobilized the uterus. A palliative vaginal hysterectomy seemed to cure the patient entirely and she was free from all symptoms for nearly ten years when she succumbed to a recurrence. This case is cited as another illustration of how little we really know of cancer. We cannot explain why after extensive rad-

ical operations apparently eradicating the last trace of malignant disease, the patients die from recurrence within six or eight months, while in other cases a merely palliative intervention permits long years of survival. Theilhaber thinks that it may be possible to stimulate the defensive processes by the regeneration which follows venesection, and consequently he now as a routine procedure draws from 400 to 500 gm. of blood a week after every operation for cancer.

67. See the Paris Letter in The Journal, April 19, 1913, p. 1239. Also abstr. 58 above.

68. **Postoperative Peritonitis.**—Colin reports a case of this kind in which the two special dangers of peritonitis were particularly imminent, that from the toxic microbian secretions and that from the gastric auto-intoxication. He sought to attenuate the first by injecting 2 gm. of camphor every day into the peritoneum, in oil, striving to exert a kind of embalming action on the tissues. Camphor paralyzes the microorganisms and permits the phagocytes to attack them, no longer repulsed by the toxins secreted by the infecting agent. The camphor treatment was supplemented by very hot wet packs. He ascribes to the hot packs various phenomena of reflex vasodilatation, thus inducing hyperemia. To reenforce this action he made subcutaneous injections of sodium nucleinate which, according to Chantemesse, attracts leukocytes into the omentum. All these measures were supplemented by general tonic measures, injections of saline, etc., to promote diuresis and strengthen the heart. The gastric auto-intoxication was warded off by repeated lavage of the stomach. This relieved the patient immediately, arrested the pain, and put an end to the vomiting, thus arresting the violent contractions of the diaphragm which have such an injurious action on the intestines and spread the pus. He refrained on principle from morphin which paralyzes the omentum and reduces its bactericidal power and from ice which induces vasocontraction and checks the circulation in the region while leaving the lymphatics open for absorption. He declares that the lymphatics escape the action of vasoconstriction, their anatomy differing from that of the blood-vessels. One case is scarcely sufficient to base conclusions on, but his success in arresting the extremely severe diffuse peritonitis in this case in less than twenty-four hours he thinks is worthy of attention.

Lyon Chirurgical, Lyons

April, IX, No. 4, pp. 353-460

69 *Treatment of Undescended Testicle. (Un procédé nouveau de cure radicale de l'ectopie testiculaire.) P. Gorse and Swynghedauw.
70 *Ligneous Tuberculosis of the Thyroid. (Tuberculose thyroidienne foliculaire à forme de thyroidite ligneuse.) L. Tixier and P. Savy.
71 Lesions in Stomach Walls Secondary to Perigastritis. (Les lésions du muscle gastrique consécutives aux perigastrites. Leurs rapports avec les troubles de la motricité stomacale.) L. Bériel and C. Gardère.
72 Fracture of the Malleolus. (La troisième malléole.—Fracture marginale postérieure.) E. Destot. Commenced in No. 3.
73 Nephrectomy for Polycystic Kidney. Cured to Date (4½ Years). L. Desgouttes and R. Olivier.
74 *Appendicitis from Helminths. C. Garin and A. Chalier.

69. **Treatment of Undescended Testicle.**—Gorse and Swynghedauw have applied in nine cases with most excellent results a radical method of correcting ectopic testicles which seems to be applicable in every case. They first incise the scrotum and introduce a large glass marble in case of children or a china egg for an adult, and suture the skin over it. This is worn for two months; by the end of this time the scrotum has been prepared so that the testicle when it is brought down into it will find a practically normal bed and will have no tendency to slide upward. The objection that the operation is done at two sittings with such a long interval is comparatively insignificant as the patients in these cases are generally children and the long interval is of little moment. They do not have to stay in bed, but of course have to keep quieter than usual while wearing the smooth foreign body.

70. **Ligneous Tuberculosis of the Thyroid.**—Tixier and Savy report a case and summarize four from the literature in which the thyroid became the seat of a follicular ligneous tuberculous process. The patients were three women and one man, all over 40, and a child of 2. The process developed in the course of a few months, afebrile, and causing functional disturbance interfering with the voice and breathing. In one of the cases there was severe pain radiating to the back of the neck; in another there was pronounced cachexia, but in the case reported in detail there was neither pain nor cachexia. The tumefaction is not considerable but the hard, solid consistency is striking; the tumor is adherent and is sometimes accompanied by enlargement of the submaxillary lymph-nodes. Cancer is generally suspected. With a syphilitic process in the thyroid there may be the same woody mass but the history of the case and other manifestations of syphilis, the benefit from mercurial treatment and the Wassermann reaction readily differentiate syphilitic thyroiditis. In the case reported the positive tuberculin reaction, enlarged lymph-nodes and suspected tuberculous affection of the apices served to confirm the diagnosis of tuberculosis although the tubercle bacilli have never been found in a case of this kind. The trouble seems to be primary and the prognosis unfavorable. Bruns' patient recovered after removal of the tumor, but Camara's succumbed to the progressive cachexia and in the case reported the patient seemed to be doing well after removal of the enlarged thyroid but dyspnea returned a few days later without known cause. A secondary tracheotomy tided her along for a time after the tracheotomy wound had healed, but there was still a little difficulty in breathing and she died suddenly in the night a few weeks later. Nothing was found to explain the fatality. The thyroid seems to be only rarely the seat of primary tuberculosis: Arnd was able to compile only forty-four cases from the literature, but our increasing knowledge in regard to "inflammatory tuberculosis" suggests that this occurs more often than hitherto deemed possible.

74. **Oxyuris Appendicitis.**—Garin and Chalier add another to the list of cases of chronic appendicitis from the presence of helminths inoculating the walls with virulent germs. They urge the pathogenic importance of helminths from this point of view, and the necessity for detecting their presence by examination of the stools in all cases of chronic abdominal trouble.

Lyon Médical, Lyons

March 30, XLV, No. 13, pp. 665-732

75 Epilepsy in Course of Typhoid. F. Moulsset and L. Folliet.
76 Hour-Glass Stomach. (Les différentes forms de la biloculation gastrique et leur diagnostic radiologique.) Barjon.

April 6, No. 14, pp. 733-776

77 Correction of Deformity of the Nose. (Corrections des difformités du nez par opérations intra-nasales et inclusions prothétiques.) Garel and Gignoux.
78 Sero-Agglutination of the Pneumobacillus. M. Petzetakis.

Presse Médicale, Paris

April 2, XXI, No 27, pp. 261-272

79 Technic for Salvarsan. (Injections intramusculaires huileuses d'arséno-benzol dans le traitement de la syphilis.) F. Balzer.
80 Importance of Salkowski and Kojo Urine Test for Diagnosis of Cancer. (Valeur clinique que le dosage de l'azote colloide urinaire offre pour le diagnostic du cancer des viscères.) V. P. Semionow.
81 Congenital Stenosis of the Esophagus. Guisez.

April 5, No. 28, pp. 273-284

82 Toxemia with Asystolia. Debove.
83 Restriction of Intake of Fluids in Management of Abnormally High Blood-Pressure. (Restriction des boissons dans la cure des hypertensions vasculaires.) A. Martinet and F. Heckel.
84 Stovain-Strychnin Spinal Anesthesia. (503 cas de rachianesthésie par la méthode du professeur Jonnesco.) Dimitriou and Saghinesco.

Revue de Chirurgie, Paris

March, XXXIII, No. 3, pp. 293-427

85 *Cancer of the Tongue Under Age of 30. (Le cancer de la langue chez les jeunes sujets.) M. Gorse and Dupuich.
86 *Inflammatory Tuberculosis. (La tuberculose inflammatoire Ses manifestations chirurgicales.) G. Cotte and H Alamartine.
87 Occupational Aneurysm in File-Grinders. (Anévrisme professionnel de l'arcade palmaire superficielle.) J. Regnault and B.-Lacouture.
88 *Necessity for Avoiding "Dietetic Shock" in Operative Cases. (Recherches sur la nutrition des anesthésiés et des opérés.) E. Chauvin and S. N. Oeconomos.

85. **Cancer of the Tongue in the Young.**—The case is reported of an epithelioma of the tongue in a young soldier. Thirty cases are on record of cancer of the tongue in eight males and twenty-two females between the ages of 11 and 30. Irritation from the jagged edge of a tooth is an important factor confirmed by the location on the edge of the tongue. There was no suggestion of syphilis except mere suspicion in two cases. Recurrence is more liable in the young; only one case of long survival is known and of two years to date in another case.

86. **Inflammatory Tuberculosis.**—Cotte and Alamartine discuss the surgical aspect of tuberculous lesions of inflammatory nature without the specific lesions of tuberculosis. It is impossible to produce such attenuated lesions in experimental work as in this form of bacillosis in man. They discuss the involvement of the joints and bursae, bones and fibrous tissue, gastrointestinal tract and genital organs. Any and all tissues are liable to be the seat of this inflammatory tuberculosis and entail defective development and modify the internal secretions. In nineteen patients with infantile genital organs, Hegar noted tuberculous antecedents in nine and acquired tuberculosis in two; Meyer found twenty-three with an inherited taint and nineteen with acquired tuberculosis in sixty cases of infantile genital organs, and Merletti found eighty cases with infantile uterus among 500 tuberculosis cadavers. The inflammatory tuberculosis may cause acute congestions or chronic changes of the sclerosis type or there may be neoplasm formations in which the absence of specific characteristics misleads as to their true nature. Until we are better posted on the subject, further research can be only along the lines of recording clinical coincidences: This alone reveals the true nature of the bacillosis in its most attenuated forms and atypical manifestations.

88. **The Dietetic Shock with Operations.**—Chauvin and Oeconomos report extensive research on the metabolism before, during and after general anesthesia which has confirmed the remarkable effect on the kidney functioning. The urine becomes pathologic in two directions; all the nitrogenous products become increased, evidently from exaggerated destruction of the albuminoid molecule, and, secondly, there is an almost constant and very pronounced acidosis manifested by the increase in ammonia, acetone, etc., pouring into the blood-stream quantities of toxic products. They call attention to the significant fact that these disturbances are observed whatever the anesthetic employed and whatever the mode of administration, inhalation, spinal anesthesia or local cocain anesthesia. The same disturbances are observed likewise after fasting when there has been no anesthesia nor operation. They have concluded that these disturbances are due in large measure to the restriction of the diet, preliminary to and following a major operation. Besides the operative shock and the shock of the anesthesia, we must reckon with the dietetic shock. The latter can be avoided, they state, and report experiences which show that the patients can be tided along past this phase by giving a simple and easily digested carbohydrate, such as glucose. They found most useful a mixture containing 150 gm. glucose, 6 gm. tincture of cinnamon, and 0.5 gm. tincture of nux vomica with water to make 300 gm. This mixture was taken the day before the operation and the three following days, and the urine showed none of the above pathologic changes.

Revue de Gynécologie, Paris

February, XX, No. 2, pp. 113-224

89 Radiotherapy of Uterine Fibromas. A. Siredey.
90 Information to be Derived from the Urinary Apparatus as Guide to Operability of Cancer of the Uterus. H. Violet and J. Murod.
91 Intermittent Distention of the Inflamed Appendix; Eleven Cases. (De l'hydro-appendicitose.) E. Duroux.

Semaine Médicale, Paris

April 2, XXXIII, No. 14, pp. 157-168

92 The Cerebrospinal Fluid in Meningeal Disease. (Que faut-il penser des prétendues erreurs de formule cytologique du liquide céphalorachidien dans les affections méningées?) E. E. Gaujoux

Beiträge zur klinischen Chirurgie, Tübingen

March, LXXXIII, No. 2, pp. 225-450

93 *Experimental Production of Goiter. (Versuche über künstliche Kropferzeugung.) K. Blauel and A. Reich.
94 Tardy Hemorrhage with Appendicitis. Hauch.
95 Diverticulum in the Bladder. (Die radikale Behandlung angeborener Blasendivertikel.) J. M. van Dam.
96 Dermoids of the Floor of the Mouth. (Die Mundbodendermoide.) R. Hassel.
97 Dislocation of the Knee. (Luxationen im Kniegelenk.) W. Hering.
98 Hernia of the Ovaries and Tubes. (Ueber sog. eingeklemmte Hernien der Adnexe.) A. L. Matthey.
99 Functional and Anatomic Regeneration of Common Bile Duct After Intoduction of a T Tube. K. Propping.
100 The Clinical Picture of Fetal Chondrodystrophy. W. Jaroschy.
101 Successful Transpleural Resection of a Carcinoma in the Cardia. J. H. Zaaijer.
102 *Coasting and Ski Accidents. (Verletzungen beim Wintersport.) O. Bernhard.

93. **Experimental Production of Goiter.**—Blauel and Reich report extensive experimental research and review the literature, their conclusions harmonizing with those recently published from Wilms' clinic, obtained by a different method.

102. **Coasting Injuries.**—Bernhard reviews the experiences in the Engadine in the winters 1886-1913 with skating, coasting, ski jumping, etc. Each of these winter sports has a typical set of accidents to which it is liable. He says that the number of accidents is comparatively small, however, and their gravity is generally overrated. He describes the technics found most useful in treating the various types of fractures.

Berliner klinische Wochenschrift

March 31, L, No. 13, pp. 573-620

103 Present Status of Treatment of Syphilis. (Die jetzigen Heilmittel der Syphilis und ihre Anwendung in der Praxis.) K. Touton.
104 Localization of Oxygen in Animal Tissues. (Tatsachen über die Reduktionsorte und Sauerstofforte des tierischen Gewebes.) P. G. Unna.
105 *Duodenal Ulcer in Infants. (Das Ulcus rotundum duodeni im ersten Lebensjahr.) W. Schmidt.
106 Surgery of the Spinal Cord. (Gegenwart und Zukunft der Rückenmarkschirurgie.) M. Rothmann. Commenced in No. 12.

105. **Duodenal Ulcer in Infants.**—Schmidt states that he found a duodenal ulcer in twenty infant cadavers out of 3,824 post-mortems in the last seven years. This represented 1.8 per cent. of the 1,109 child cadavers. The age ranged from five days to eleven months. In 2,715 necropsies of older persons he discovered only seventeen cases of duodenal ulcers, including two between 20 and 30; three between 30 and 40; four between 40 and 50, and four between 50 and 60, the other decades being represented by one each. This shows that duodenal ulcer is most prevalent during the first year of life. It was found in infants with rachitis, nephritis and other wasting diseases, including tuberculosis, and in malnutrition in general. In one case two ulcers were found; in one five, and in two instances three, evidently of different ages. In fourteen cases the duodenal ulcer caused absolutely no symptoms during life, and Morot recently stated that in 20 per cent. of his cases of duodenal ulcer in adults the lesion had caused no symptoms. In one child who had died of sepsis from extensive phlegmon of the trunk, the duodenal ulcer was found healed over.

Centralblatt für die Grenzgebiete der Med. und Chir., Jena

April, XVI, No. 4, pp. 425-510

107 *Cerebral Syphilis. (Die operative Therapie des Lues des Centralnervensystems.) S. Schoenborn.
108 *Tuberculosis of the Stomach. (Die Tuberkulose des Magens.) D. G. Zesas.

107. **Cerebral Syphilis.**—Schoenborn has been able to find only fifty published articles on operative treatment of syphilitic lesions in the central nervous system, which he here reviews. Analysis of the various reports shows that circumscribed syphilitic changes in the brain and spinal cord are amenable to operative measures the same as inflammatory processes of other origin. The mortality is rather less, and the prospects for recovery are at least as good as with nonsyphilitic processes. On suspicion of syphilis, specific treat-

ment should be instituted and a vigorous six-weeks course given before considering operative treatment unless there is pressing danger of blindness or a fatal outcome. The results of operative treatment compare very favorably with that with tumors of other kinds, but to date there is no statistical support for the assumption that operative treatment can accomplish more, on an average, than systematic therapeutic measures. There has been no material accumulated to date in regard to operative treatment of diffuse syphilitic processes, although Horsley has recommended it. Neither is there any evidence to date that operative treatment on the whole is more effectual than the usual antisyphilitic treatment. In the literature cited no case of complete recovery is recorded, either with syphilis of the brain or spinal cord. His compiled operative brain cases total thirty-four with a mortality of three, and of two in the nine operative cases of cord syphilis.

108. **Tuberculosis of the Stomach.**—Zesas analyzes 232 articles on this subject, and states that in the thirty-two operative cases recorded four were cured of the eight patients treated by resection, and eleven of the twenty treated by gastro-enterostomy, while all died of the four treated by pyloroplasties or gastrolysis. Gastro-enterostomy is thus shown to be superior to other operative measures in treatment of tuberculosis of the stomach, but the ultimate outcome depends naturally on the stage of the process. There should be no delay after the diagnosis is once certain. Spontaneous healing occurs very rarely but occasionally the stomach affection passes into a mild chronic stage: Margarucci and Hattute have reported survivals of fifteen and eight years. There are no pathognomonic symptoms, and the diagnosis is generally a necropsy surprise. Ordinary gastric ulcer is not rare with pulmonary tuberculosis, and true tuberculous gastric ulcers may be accompanied by hyperchlorhydria and hypersecretion. Hypochlorhydria is also frequent: in Ruge's case not only the clinical picture but the operation and the necropsy findings indicated cancer until the microscope brought the surprise that all the changes noted were of a tuberculous nature. As a rule, gastric cancer develops after forty while gastric tuberculosis generally affects younger persons. Another differential point is that with gastric cancer the pains are independent of the intake of food. Simmonds has reported a case in which both cancer and tuberculous ulcers were found in the dilated stomach. Others have reported tuberculous lesions in the stomach in syphilitics.

Deutsches Archiv für klinische Medizin, Leipsic

CX, Nos. 1-2, pp. 1-188. Last indexed May 3, p. 1502

109 Specific Gravity of the Urine in Various Diseases. (Ueber das spezifische Gewicht des Harns bei Krankheiten, seine Abhängigkeit vom Gesamttrockenrückstand und von einzelnen Bestandteilen des Harns.) L. Jacob.
110 *Diaphragm Eventration. (Zur Eventratio diaphragmatica mit elektrokardiographischen Untersuchungen.)* P. Baetge.
111 Hemolytic Jaundice. (Zur Frage des "Ictère hémolysinique"—Chauffard.) O. Roth.
112 **Importance of Calcium for the Growth. (Bedeutung des Calciums für das Wachstum.)* F. H. McCrudden (New York).
113 Innervation of the Kidney. O. Renner.
114 The Sugar in the Blood during Fever. (Verhalten des Blutzuckers im Fieber.) H. Freund and F. Marchand.
115 *Karell's Method of Treating Cardiovascular Disturbance. (Wert der Karellkur zur Behandlung von Kreislaufstörungen). Wittich.
116 Influence of Ingestion of Food on the Metabolism. (Einfluss des Nahrungsaufnahme auf den Stoffwechsel.) F. G. Benedict (Boston).
117 Erroneous Conclusions from *Some Recent Pharmacologic* Studies of Digitalis Preparations. (Was bedeuten die neuen Befunde von Gottlieb und Ogawa über die Digitoxinresorption für die ärztliche Praxis.) Focke and R. Gottlieb.
118 The Functioning of the Congested Kidney. (Zur Kenntnis der Funktion der Stauungsniere.) W. Nonnenbruch.
119 Importance of the Antibodies in Tuberculosis. (Bedeutung der Antikörper bei der Tuberkulose.). J. Citron and J. Schürer.

112. Reviewed editorially in The Journal. See also Oct. 19, 1912, p. 1482.

115. **The Value of the Karell Diet in the Treatment in Circulatory Disturbances.**—Wittich discusses the value of the well-known Karell method of dieting in the different varieties of heart disease, on the basis of 100 carefully studied cases. In practically all forms of heart disease he finds a marked improvement in the subjective feeling of the patient. The only real contra-indication to its use is uremia or decided uremic symptoms. The best results are observed in cases of heart insufficiency due to simple chronic myocarditis. No medicine at all is required in these cases. The next most favorable group is that showing valvular lesions. Here medicines may sometimes be used as aids with advantage. The cases due to arteriosclerosis are somewhat less favorable, and those caused by nephritis least so, although even here the diet is of great value in conjunction with medical treatment. Where there is a tendency to uremia, the diet should contain little salt, but abundant fluid. The restriction of both fluid and salt is an essential factor in the Karell course. Diuresis is increased, salt elimination favored, dropsy and edema disappear, and in most cases the blood-pressure is decidedly reduced (The Karell method of dieting—the Karell "cure"—was described in The Journal, Feb. 17, 1912, p. 524. See also Abstr. 53 above.)

Deutsche medizinische Wochenschrift, Berlin

March 27, XXXIX, No. 13, pp. 585-632

120 Talipes. (Behandlung des angeborenen Klumpfusses.) O. Vulpius.
121 *Active Participation* in the Circulation of the Blood by the Arteries. (Förderung des Blutstroms durch den Arterienpuls.) K. Hürthle.
122 Benefit from *Intravenous Injection of Saturated Solution of Camphor in Treatment of Pneumonia*, etc. (Wirkung gesättigter wässriger Kampferlösung.) H. Leo.
123 Serodiagnosis of Leprosy. (Serologische Untersuchungen bei Leprösen.) B. Möllers.
124 From the Seat of War. (*Chirurgische Erfahrungen im Deutschen* Roten Kreuz-Lazarett in Belgrad.) R. Mühsam, L. Schliep and Lotsch.
125 Emphysema. W. A. Freund.
126 Technic for Examination of the Urine. (Zur Harnanalyse.) *E. Salkowski.*
127 Roentgenoscopy of the Appendix Shows It Actively Movable. (Der Wurmfortsatz im Röntgenbilde.) M. Cohn.
128 The Physician and Medical Matters in Recent Novels and Plays. (*Medizinisches und Mediziner in der neuesten* Belletristik.) L. Finckh.

Deutsche Zeitschrift für Chirurgie, Leipsic

March, CXXI, Nos. 5-6, pp. 393-588

129 *Perforated Gastric and Duodenal Ulcer. (Zur Klinik und Therapie des perforierten Magen- und Duodenalgeschwürs.) G. A. Wetterstrand.
130 Supplementary Ureters as Cause for Various Kidney Affections. (Ueber akzessorische Harnleiter.) A. Pawloff.
131 Appendix as Substitute for Bile Duct. (Möglichkeit eines Choledochusersatzes durch Einpflanzung des Processus vermiformis.) Molineus.
132 The Superficial Nerves in relation to Technic for Local Anesthesia. (Anatomische Untersuchungen einiger für die Lokalanästhesie wichtiger Hautnerven bezüglich ihrer Durchtrittsstellen durch die Fascien.) F. Rost.
133 Hemorrhage in the Pancreas. Knape.
134 Compressed-Air Apparatus for Pressure Massage, etc., in Hospitals. (Der Luftkompressor im Krankenhaus.) F. Kuhn.
135 *Bradycardia with Injury of the Liver. S. Rubaschow and H. Finsterer.
136 *Resection of Wrist Bones for Ischemic Contracture. (Eine neue Methode zur operativen Behandlung der ischämischen Kontraktur.) A. Horwitz.
137 Ascaridiasis of the Bile Passages Simulating Cholelithiasis in the Elderly; One Case: Eleven from the Literature. R. Rosenthal.
138 *Hypernephroma in the Kidney. H. Harttung.*

129. **Perforated Gastric or Duodenal Ulcer.**—Wetterstrand's patients were nearly all men; over 75 per cent. were saved by a prompt operation. The history of the cases showed ulcer symptoms in about 80 per cent. The behavior of the liver dulness is of great diagnostic importance as with air free in the abdominal cavity the area of dulness contracts or disappears. The total mortality, 45 per cent., is larger than with appendix peritonitis, but the prospect for a favorable outcome does not diminish so early as in appendicitis.

135. **Bradycardia from Injury of the Liver.**—Rubaschow declares that Finsterer's assertion that bradycardia is an important characteristic of injury of the liver is not correct, and his explanation of a bradycardia with liver injury as due to the action of the bile acids in the blood has not

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received corroboration. Finsterer reaffirms the importance of the sign but insists that the bradycardia is only relative. A full, powerful and slow pulse should not be accepted as excluding internal hemorrhage from injury of the liver. This has occurred in several cases on record to the great detriment of the patient.

136. **Ischemic Contracture.**—Horwitz calls attention to the excellent results obtained in Bier's service by operative treatment, resection of the bones of the wrist, lengthening the flexor tendons if necessary. He advises not to waste time on massage and exercise before resorting to operative measures. The aim should be to operate before the muscles have become atrophied. The earlier it is done the less after-treatment is required.

Medizinische Klinik, Berlin

March 30, IX, No. 13, pp. 485-522 and Supplement

139 *Tuberculosis in Children. (Ueber Tuberkulose des Kindesalter.) F. Hamburger.
140 Fracture of Elbow. (Diagnose und Therapie der Frakturen in der Nähe des Ellbogengelenks.) T. Voeckler.
141 Radium Emanations in Therapeutics. (Ueber die Aufnahme von Radiumemanation in das menschliche Blut bei der Inhalations- und Trinkkur.) H. Mache and E. Suess.
142 Alkali in Treatment of Albuminuria. W. Weiland.
143 *Sexual Neurasthenia. (Eine besondere sexuell Neurasthenie in reiferem Alter.) C. Hudovering.
144 Poisoning from "Hell-Oil" Nuts. (2 Fälle, von schwerer Vergiftung durch Curcasnüsse.) A. Lippmann.
145 Radish Juice in Treatment of Gall-Stones. (Behandlung der Cholelithiasis mit Rettigsaft.) Grumme.
146 Technic for Cosmetic Operations and Treatment. (Die Technick der kosmetischen Encheiresen.) J. F. Kapp.

139. **Tuberculosis in Children.**—Hamburger insists that tuberculosis is an infectious process which accompanies civilized beings from childhood to the grave. Its resemblance to syphilis is striking; both have the primary lesion with enlargement of the glands in the vicinity, immunity to reinfection and, in striking contrast to this, the tendency to relapses. The resemblance is still more striking when we recall that in tuberculosis as well as in syphilis there are three well marked stages, a primary, a secondary and a tertiary stage. The tuberculous process in children is characterized by relative benignity. A large proportion of tuberculous lesions in children are recurrences, just as in syphilis; they show that the individual is incapable of rendering his bacilli innocuous. Measles displays a remarkable power in enhancing the predisposition to recurrence. This has been observed from the earliest days, attention having frequently been called to the epidemics of tuberculosis which have followed close on epidemics of measles. Every physician knows in his own experience of latent tuberculosis in some child which flared up into an acute form under the influence of trauma. In examining a child the possibility of tuberculosis should always be borne in mind. It is extremely frequent in children but it rarely occurs in the form of pulmonary tuberculosis; the latter may be regarded as the tertiary form of tuberculosis. It develops only in those who have harbored the tubercle bacilli for a long time, similarly to gumma in syphilis. The prognosis depends on whether the affection is primary or a recurrence, but above all on the age of the child at the time of the first infection. Fully 80 per cent. die of children infected before they are a year old, while only from 10 to 20 per cent. die of those in whom infection did not occur until the second year. The mortality continues to decline, dropping to 3 or 4 per cent. between 3 and 6 years, and after 6, to less than 1 per cent.; these figures refer to primary infection and not to recurrences. He advocates complete separation of young infants from the tuberculous; spit-cups will never alone ward off tuberculosis. Everything should also be avoided that would enhance the predisposition, especially measles and whooping-cough. When a child 2 or 3 years old develops phlyctenula, it must be protected with special care against measles and whooping-cough. In enhancing the resisting power to tuberculosis, ample nourishment is important but overfeeding is liable to do direct harm; the child frequently loses all appetite. In this case it often proves effectual to stop all food for a day or so; it is surprising to see how the appetite returns when all food is denied a child. In all cases of tuberculosis in children, treatment by general measures is the main thing; orthopedic measures are not enough alone. He is convinced that more harm than good has been done with tuberculin treatment of tuberculous children. Tuberculin treatment is still, he declares, in the tentative stage.

143. **Sexual Neurasthenia in Engaged Bachelors in the Forties.**—Hudovernig describes a form of psychoneurosis in men who had settled down into a bachelor existence with considerable business responsibilities but finally were making arrangements to get married and were worried for fear they were not going to be capable of fulfilling their conjugal duties. From worrying, it is merely a step to a neurotic phobia with psychic depression, loss of confidence in all the affairs of life, loss of appetite, palpitations, dizziness, vasomotor excitability, moderate tremor of the hands and exaggerated reflexes. The physical findings were negative except that the hemoglobin percentage was seldom over 70. The cure is soon complete as the physician convinces the patient of the psychic origin of his trouble. The previous history of the patient seems immaterial from the standpoint of the development of this neurosis.

Gazzetta degli Ospedali e delle Cliniche, Milan

March 18, XXXIV, No. 33, pp. 345-352

147 Herpes Zoster as Complication of Bronchitis or Pneumonia. C. Garmagnano.

March 20, No. 34, pp. 353-360

148 Modification of Pancreatic Juice in Epinephrin Glycosuria. (Modificazioni della secrezione esterna pancreatica nelle glucosuria adrenalinica.) V. Paglione.

March 23, No. 35, pp. 361-376

149 Presence and Action of Sugar in the Organism. (Sul contegno e sull' azione degli zuccheri nell' organismo.) P. Albertoni.
150 Osteomyelitis. (Alcune rare forme di osteomielite.) M. Fasano.

March 25, No. 36, pp. 377-384

151 Hemostasis in Resection of Parenchymatous Organs. G. Caponetto.

Policlinico, Rome

March 30, XX, No. 13, pp. 437-472

152 Influence of Radium on Blood-Pressure and Blood-Count. (Influenza del radium sulla formula ematologica e sulla pressione sanguigna.) G. Giacchi.

March, Surgical Section No. 3, pp. 97-144

153 Experimental and Clinical Study of Obstruction of Mesenteric Blood-Vessels. N. Leotta. Commenced in No. 2.
154 Two Cases of Multiple Peripheral Neurofibrosarcomatosis. E. Magni.

Riforma Medica, Naples

March 22, XXIX, No. 12, pp. 309-336

155 Permeability of Intestine Wall for Bacteria and the Protecting Action of the Omentum. A. Poddighe.

March 29, No. 13, pp. 337-364

156 The Adrenals. (Fisiopatologia delle capsule surrenali in rapporto al morbo di Addison ed alle sindromi surrenaliche.) C. Castellino. Commenced in No. 9.

Semana Medica, Buenos Aires

February 27, XX, No. 9, pp. 497-560

157 Technic for Amputation of the Leg. (Amputacion osteoplastica de la pierna. Procedimiento di Bier modificado.) J. Caligiuri.
158 Echinococcus Disease of the Lung. (Quistes hidatidicos del pulmon.) J. P. Hemminges.
159 Heat and Life. (El calor y la vida.) D. Carbonel.
160 Tests for Invisible Writing. (Los metodos de Stockis para la revelacion de las escrituras secretas.) A. L. Marzo.
161 Hematuria. (Los hematuricos.) E. Perez-Grande.

March 6, No. 10, pp. 561-620

162 Septic Tanks and Disposal of Sewage in General. (Eliminacion de los residuos cloacales. Su depuracion biologica.) P. J. Pando.
163 Digestive Disturbances as Factor in Skin Diseases. (Subordinacion patogenica de las dermatoses a las dispepsias.) N. Rodriguez.
164 Tuberculosis of the Kidney. (Consideraciones sobre el tratamiento de la tuberculosis del riñon.) D. R. Molla.
165 The Functioning of the Brain. (Actividad cerebral.) D. Carbonel.
166 Abuse of Antiseptics in Treatment of the Eyes. (Sobre el empleo abusivo de ciertos medicamentos en terapeutica ocular.) S. Blanco.
167 Regeneration of the Blood in Anemia. (La regeneracion fisiologica de la sangre en las anemias.) J. C. Fillol.

Miscellany

The Care of Lepers in Hawaii

Until sixty years ago leprosy was unknown in the Hawaiian Islands. According to McCoy of the Public Health Service (*Public Health Reports*, April 18, 1913), the disease was at that time probably introduced by Chinese immigrants. For this reason the natives still call it "the Chinese disease." Its spread must have been rapid because four years later the board of health took measures to isolate the persons who were afflicted. This policy of segregation has been carried on ever since. Contrary to general opinion the lepers are not kept on a barren island far out in the ocean, nor is the colony controlled by guards to prevent escapes. On the contrary, the settlement is placed on a small peninsula about 9 miles square, jutting out from the northern side of the island of Molokai.

Molokai is a beautiful island and its leper settlement comprises only about one-fortieth of its total area. The lepers are satisfied to remain in the settlement and no guards are required. If any one should escape he would be apprehended and returned by the police of the island. The law requires that every case of leprosy be reported to the proper sanitary authorities by whomsoever may happen to have cognizance of it, whether physician or layman. Before the patient is sent to the Molokai settlement he is referred to the isolation hospital in Honolulu where he is given the benefit of at least six months' treatment. At the end of this time if improvement is noted treatment is continued. If there is no improvement he is sent to the settlement. At the discretion of the board of health the patient may be accompanied by a healthy adult, either wife, husband or parent. In many instances there are marriages among the lepers at the settlement.

Although this practice is condemned by some, McCoy is of the opinion that it is much better to allow it than to attempt to segregate the sexes. Whenever children are born of such unions they are at once removed to clean surroundings and cared for by the territory until they become self-supporting. At the settlement each family is provided with a house and some land. Besides this, ample rations, clothing, and medical attendance are furnished free. At present there are about 700 known lepers in the Hawaiian Islands. These are all either at the settlement or at the isolation hospital in Honolulu. It is believed, however, that there are many lepers at large unknown to the authorities. Leprosy is gradually dying out in the islands. This is not due to improved methods of treating it so much as to the fact that the native race, which is chiefly afflicted, is fast diminishing. There are now only about 36,000 native Hawaiians and about 2 per cent. of these have leprosy.

When compared with the results in the handling of other infectious diseases the success achieved with leprosy is not very flattering. This is due to many causes. Perhaps the fact that politics has necessarily entered somewhat into the situation is partly to blame; but the chief factors that interfere with the rapid extermination of leprosy are those which are inseparably bound up with the disease itself. Although it is known to be infectious, we do not know how the infection is carried. Although the period of incubation is not ascertained, we know that it is so long that early diagnosis is practically impossible. Many persons have the disease, probably in an infectious stage, before the signs are obvious which make their apprehension by the authorities possible. These are handicaps which render a quick solution of the problem impossible. Pending the acquisition of further knowledge concerning the natural history of the disease itself, it would seem that periodic examination of every one in the islands is the only way in which all cases can be surely detected during their incipiency.

Propaganda for Reform in Italy.—The question of regulation of the sale of patent medicines and proprietaries has recently been discussed in the Italian parliament, and the *Policlinico* quotes with approval from an article in the Venice lay paper, *Il Veneto*, which has taken an advanced stand in regard to the necessity for checking the fraudulent advertising of proprietaries. The article states that certain senators during the recent discussion called the attention of the government to the danger to the health and injury to the pocket of the public from the use of proprietary medicinal articles without the sanction of medical advice. Physicians have repeatedly protested against the exaggerated claims made for medical or specific specialties advertised directly to the public; but this is the first time that the echo of their protests has been heard in the halls of legislation. It is a sign of progress that the matter has now passed beyond the limits of medical journals and medical congresses; it shows that the government realizes the necessity for protecting the health of the public against the nefarious works of quacks. The presiding officer of the senate stated that he would use all his power to aid a reform which he thought would regulate the production and exploitation of fraudulent medical proprietaries. The article continued to the effect that medical advertising is becoming more and more exaggerated in the Italian press as a whole, promising miraculous cures, etc. This antihygienic and antisociologic commercialism should be attacked both by the medical profession and by the government. Various methods for controlling the sale of proprietaries are suggested and a vigorous effort is advocated to obtain restrictive legislation, while, on the other hand, it urges that every effort should be made to awaken and cultivate the hygienic conscience of the people. The article reviews what has been accomplished in other countries, and France is praised for its energetic action against the Maclaughlin electro-vigor belt company, which was compelled to pay damages of 30,000 francs to the representatives of the national French medical association. The sale of this electro-vigor belt has been forbidden in England, Germany and the United States, but it is still tolerated in Italy, where the proprietor can sell his goods without restriction. In conclusion the United States is lauded as the first to lead the way to protect the public against some of the evils of patent medicines, fraudulent labels, etc.

Indirect Treatment of Gastric Ulcer.—C. Alvarez (*Siglo Medico*, 1912, lix, 717) removed a tumor near the spine of a woman of 40 who had suffered for three years from a severe stomach affection rebellious to all medical measures. The tumor shelled out easily and at once all symptoms on the part of the stomach subsided and have not returned during the nearly fifteen years since. This experience suggested that the stomach trouble had been maintained by irritation from the nerves involved in the tumor, and that the manipulation and division of some of the nerve branches during the operation was responsible for the excellent effect of the operation. Alvarez experimented on the cadaver and on dogs, and here reports eight cases of stomach trouble or actual gastric ulcer, in which he put an end to the gastric disturbances by stretching the sympathetic in the region where he had removed the tumor in the case mentioned above. He exposed the interspaces between the sixth and ninth ribs and opened up the corresponding nerves. He then applied traction to those nerves, pulling on them from the periphery, with care not to injure the pleura, doing this on both sides. The result in the first case was the complete cure of the pain and vomiting from which the woman of 27 had suffered for three years with recurring hematemesis. Her stomach has been apparently entirely normal during the months since. The total acidity in this case before the operation had been 211 (normal 89); free hydrochloric acid 109 (normal 44); total chlorids 591 (normal 321). The findings in the other cases are also given in detail, all the patients showing marked improvement at once and all the gastric symptoms soon disappearing entirely. The gastric trouble seems to be kept up by a reflex, secondary hypersecretion of nervous origin; eliminating this, the reflex exaggeration of the secretion stops and the vicious circle is broken up. It is possible that stretching one nerve alone might answer the purpose, but his success with stretching the three pairs was so fine that he hesitates to modify the technic.

The Control of Temperatures in the Pasteurization of Milk.—In the pasteurization of milk it is desirable that no portion of the apparatus be overheated to such an extent as to scorch the milk. C. H. Kilbourne (*Am. Jour. Pub. Health*, March, 1913), suggests a method by which the temperature may be controlled in the pasteurizing apparatus and maintained at a uniform stage. He says that the usual method of applying heat to the pasteurizer is either to introduce the steam directly into the heating-chamber or to introduce it into the water which flows into the heating-chamber. In either case the chances are very great that some steam will strike the heating-surface before it has become condensed, and it will therefore cause some portions of the heating-surface to become superheated, which will impart a scorched taste to the whole body of milk, although the average temperature of the milk leaving the apparatus may be well below the pasteurizing temperature. It is desirable that the heating-surface with which the milk comes in contact shall never reach a temperature more than 15 degrees F. higher than that to which it is desired that the milk shall leave the apparatus. That temperature is 145 F., which means that the apparatus must not have a temperature higher than 160 F. One method of accomplishing this is to have a separate tank outside of the milk-heater filled with water, which is kept at a temperature of 160 F. by means of a thermostat placed in the pipe. This works all right when the milk is not forced too rapidly through the heater; in the latter case it drops rapidly below the desired 145 degrees after leaving the apparatus. Kilbourne's method of avoiding this is to attach a thermostat to the outlet pipe through which the hot milk leaves the heater, so arranged that it will control the flow of milk into the apparatus.

The Bezoar as a Charm Against Disease.—A charm against disease that may not be so well known as the buckeye or the potato for the prevention of rheumatism, or the madstone for the prevention of hydrophobia or the cure of snake-bite, is the bezoar. This is a mineral concretion which is found in the stomachs of herbivorous and ruminant quadrupeds and which sometimes has hair incorporated with it, when it is often called a hair-ball. As a rule bezoars have as a nucleus some indigestible substance taken into the stomach with the food; this nucleus gradually becomes coated with superphosphate of lime or ammonium or magnesium phosphate, in a similar manner to that by which some foreign substance in the oyster, becoming coated with calcium carbonate, is converted into a pearl. Bezoars which consisted entirely of mineral matter without the coating of hair were esteemed particularly in the Orient for their supposed medicinal virtues. The possession of a bezoar was believed to protect the owner against various diseases, and a bezoar was regarded as especially efficacious as an antidote to poisons, even the bites of venomous reptiles. Sometimes these charms were placed in costly settings and worn about the person, choice specimens commanding high prices, according to their size. A number of gold-mounted specimens have been preserved in the Court Museum at Vienna.—*Scientific American.*

The Throat in Prophylaxis of Tuberculosis.—Dr. Friedrich of Kiel has induced the association of German laryngologists to take steps to emphasize the importance of treatment of the upper respiratory tract and especially the larynx in combating tuberculosis. It is quite generally believed that tuberculosis of the larynx is incurable and that it occurs only in the latest stage of pulmonary tuberculosis when all treatment is hopeless. As a matter of fact, he says, laryngeal tuberculosis is curable in its early stages. It requires special local treatment, and if such treatment is not given promptly pain interferes with proper nourishment and the general health declines rapidly. Tuberculosis of the larynx is particularly infectious because of the frequent coughing and expectoration. Early and frequent examination of the larynx in all cases of pulmonary tuberculosis, and appropriate local treatment in positive cases are therefore very effective measures in limiting the spread of tuberculosis. He published an appeal on the subject in *Tuberculosis*, 1912, xi, 519.

Association News

THE MINNEAPOLIS SESSION

(*Continued from page 1459*)

Local Committee on Arrangements (Concluded)

COMMITTEE ON SECTION MEETINGS

J. P. Sedgwick, Chairman. A. E. Johann, Secretary

COMMITTEE ON LADIES' ENTERTAINMENT

Mrs. W. A. Jones, Chm. Mrs. F. F. Wesbrook, Secretary

COMMITTEE ON ST. PAUL ENTERTAINMENT

J. W. Chamberlain, Chairman.

COMMITTEE ON FINANCE FOR ST. PAUL

F. W. Stumm, Chairman. C. E. Smith, Secretary.

VICE-CHAIRMEN OF SECTION COMMITTEES

Practice of Medicine, J. E. Hynes.
Surgery, E. A. Moren.
Obstetrics, Gynecology and Abdominal Surgery, Ivar Sivertsen.
Ophthalmology, J. S. Macnie.
Laryngology, Otology and Rhinology, W. R. Murray.
Diseases of Children, M. Seham.
Pharmacology and Therapeutics, E. D. Brown.
Pathology and Physiology, F. H. Scott.
Stomatology, Jay N. Pike.
Nervous and Mental Diseases, A. S. Hamilton.
Dermatology, H. G. Irvine.
Preventive Medicine and Public Health, F. F. Wesbrook.
Genito-Urinary Diseases, H. A. Cohen.
Hospitals, L. B. Baldwin.
Orthopedic Surgery, E. S. Geist.

MEETING OF NON-AFFILIATED ORGANIZATIONS

The American Academy of Medicine is to meet in Minneapolis June 13-15. The headquarters and meetings will be at the Hotel Leamington. The social session and banquet will be given at the same place on the evening of June 14. The general topic of the meeting will be "The Physical Basis of Crime," and several valuable papers are promised.

In connection with this meeting, the fourth annual conference of Western Medicine in Eastern Lands will be held Sunday afternoon, June 15, at 3 o'clock, in Westminster Church.

The American Association of Teachers of Diseases of Children will meet at the Commercial Club in the Hotel Radisson, Minneapolis, June 16. A morning session will be devoted to the reading of reports. In the afternoon, clinics will be given by local pediatrists, and the evening session will be devoted to the reading of papers. Further information may be obtained from Dr. J. P. Sedgwick, chairman of the Committee on Arrangements, Minneapolis.

HOTELS AT MINNEAPOLIS

Desirability of Making Reservations at Once

The Subcommittee on Hotels for the Minneapolis session, submits the list of hotels on the opposite page.

Those who are particular about their accommodations should secure reservations at once. They can write direct to the hotels, or to Dr. S. Marx White, 1106 Donaldson Building, Minneapolis, Chairman of the Committee on Hotels, who will be pleased to give any assistance possible. In writing, one should state the scientific section of the Association preferred and as exactly as possible the lodgings desired, that is, the approximate price, whether with or without bath, and who will be in the party.

TRANSPORTATION TO THE MEETING

Rates for Round Trips to Minneapolis—Announcement of the Transportation Committee

The Committee on Transportation and Place of Session suggests that members consult the local ticket-agent in their home town for full information regarding rates, time limits, extensions and stop-over privileges preparatory to purchasing railway tickets for the Minneapolis meeting. The tariff schedules on file at every ticket-office will allow the local agent to quote rates from any point. In addition to this, with the assistance of the agent, a physician can plan for an additional trip either going or coming. Those who intend going to the Yellowstone Park, the Pacific Coast, Alaska or other points should arrange for tickets for the entire trip. These side trips, of course, may be arranged for from Minneapolis; but in most instances a better rate can be obtained if a complete itinerary is submitted to the local agent. The committee announces the following rates for the Minneapolis meeting:

The Transcontinental Association announces a fare via direct route from California common points to Minneapolis and St. Paul, of $75.70. Circuit fare, one way via Shasta route, or S. F. and P. S. S. Co. between San Francisco and Portland, or P. C. S. S. Co. between San Francisco and Seattle, $85.35 from San Francisco; from Los Angeles, $95.35.

From Bellingham, Everett, Spokane, Tacoma and Seattle, Wash., or Portland, Ore., to Minneapolis, $60. Inquiries should be made of your local ticket-agent for definite information concerning the date of sale and time-limit.

The Central Passenger Association advises the committee that summer tourist fares will be in effect at the time of the meeting in Minneapolis. These tickets are all of nontransferable form and will be on sale from June 1 to Sept. 30, 1913, with final return limit to reach original starting point not later than midnight of Oct. 31, 1913.

The Trunk Line Association has authorized the following rate of fare from points in its territory:

One and one-half first-class limited fare to trunk line western termini, plus summer excursion fares tendered therefrom for the round trip. Tickets to be sold to Minneapolis or St. Paul. Dates of sale, June 12, 13 and 14. Final return limit, tickets to be limited to reach original starting point, Oct. 31, 1913. Tickets to be sold going and returning by same route only. No validation of tickets for return passage will be required. Private or sleeping cars occupied by passengers in Minneapolis or St. Paul will be parked at a charge of $10 per car per day.

We are advised that special trains and special cars are being arranged for from various points.

J. Rawson Pennington, Chairman.

Rival Routes Vying with One Another in Extension of Courtesies to the Profession

The railway lines between Chicago and Minneapolis are giving special attention to the question of transporting members to the meeting, and on some of the roads special trains, reserved for members and their friends, will be run. Railways from other points than Chicago will extend similar facilities to members in the East, South and Southwest.

The President's Special

In honor of Dr. J. A. Witherspoon of Nashville, Tenn., President-Elect of the American Medical Association, a train to be known as the President's Special will be run from Nashville to Minneapolis. Three railways will cooperate in running this train and there will be a day's stop-over in Chicago.

The train will leave Nashville at 7:50 p. m., Sunday, June 15, and will be due in Chicago, via the Louisville and Nashville and Chicago and Eastern Illinois, Monday morning at 9:30. The train will leave over the Chicago, Milwaukee and St. Paul at 6:30 p. m., Monday, and will be due in Minneapolis at 7:45 Tuesday morning. Arrangements may be made to join this train by writing Dr. Perry Bromberg, secretary of the Tennessee State Medical Association, Nashville.

Trains from the Southwest

Texas members have announced, after conference, that they will travel over the Rock Island to Kansas City, the

Hotel, Section Headquarters and Street Address	No. of Rooms	Without Bath		With Bath	
		Single	Double	Single	Double
Radisson—*General Headquarters*—Seventh St., bet. Nicollet and Hennepin	320	$1.50	$2.50	$2.50 to $5.00	$4.00 to $7.00
West—*Practice, Pathology, Dermatology, Hospitals, and Nervous*—Fifth St. and Hennepin Av.	375	1.50 to 3.00	2.50 to 4.00	2.00 to 4.00	3.50 to 6.00
Leamington—*Surgery*—1013 Third Av., South	600	1.50	2.50	2.50 to 5.00	5.00 to 7.00
Andrews—*Obstetrics, Gynecology and Abdominal Surgery*—Fourth and Hennepin	200	....	....	1.50 to 3.00	2.50 to 4.00
Dyckman—*Ophthalmology*—Sixth St., bet. Nicollet and Hennepin	200	....	....	2.00 to 4.00	4.00 to 6.00
Plaza—*Laryngology, Otology and Rhinology*—1700 Hennepin Av.	100	....	....	3.00 to 5.00	5.00 to 7.00
Majestic—*Pharmacology and Therapeutics*, and *Diseases of Children*—Seventh and Hennepin	100	1.00 to 2.00	1.50 to 2.50	1.50 to 3.00	2.50 to 4.00
Nicollet—*Stomatology*—Washington, Hennepin and Nicollet Avs.	150	1.00 to 1.50	2.00 to 2.50	2.00 to 2.50	3.00 to 3.50
Rogers—*Preventive Medicine and Public Health*—27 Fourth St., South, corner of Nicollet	150	1.00 to 1.50	2.00 to 2.50	2.00 to 3.50	3.00 to 5.00
Vendome—*Genito-Urinary Diseases*—19 Fourth St., South	200	1.00 to 2.00	2.00 to 3.00	2.50 to 3.00	3.50 to 4.00
St. Paul (in St. Paul)—*Orthopedic Surgery*—Fifth and St. Peter Sts.	360	....	....	2.50 to 5.00	4.00 to 7.00
Other Hotels In Minneapolis					
Allen—200 Third St., South, corner of Second Av.	65	1.00 to 1.50	2.00 to 2.50	2.00	3.00
Camfield—First Av., South, and Eighth St.	50	1.00	1.50	2.00	3.00
Clinton—Fourth Av., South., and Grant St.	65	2.00	3.50		
Elgin—Hennepin Av. and Eighth St.	150	1.00	1.50	1.50 to 2.00	2.00 to 3.00
Hampshire Arms—Fourth Av., South, and Ninth St.	300	1.00	1.50	2.00	3.00
Hastings—Twelfth St. and Hawthorne Av.	127	....	....	1.50 to 2.00	2.00 to 3.00
Maryland—Grant St. and Vine Pl.	200	....	....	1.50 to 2.50	2.50 to 4.00
National—Second Av., South, and Washington	200	1.00 to 1.50	2.00 to 3.00	1.50 to 3.00	3.00 to 5.00
Revere—316 Second Av., South	100	1.00 to 1.50	2.00 to 2.50	2.00	3.00
Rosslyn—707 Summit Av.	70	....	....	1.00 to 1.50	2.50 to 4.00
Williston—500 Tenth St., South, corner of Fifth	50	1.00	1.50	2.00	2.50
St. Paul Hotels					
Aberdeen—Dayton and Virginia	200	....	....	1.50 to 3.00	3.00 to 5.00
Frederick—Fifth and Cedar Sts.	100	1.00	2.00	1.50 to 3.00	2.50 to 4.00
Ryan—Robert St.	300	1.00 to 1.50	2.50 to 4.00	2.00 to 4.00	3.00 to 6.00
Willard—Tenth and St. Peter Sts.	200	.75	1.25	2.00 to 4.00	3.00 to 6.00

Burlington from Kansas City to Council Bluffs, and then by the Northwestern.

The Missouri Valley and Southwest Special will run over the Chicago Great Western from Kansas City, leaving on the afternoon of Sunday, June 15, due in Minneapolis at 8:05 a. m. Monday, in order to give delegates time to get located in Minneapolis and attend the sessions of the House of Delegates and other special meetings which are to be held prior to the opening meeting of the Association on Tuesday. Reservations on this train, which will carry a number of delegations, may be made by addressing Dr. Charles Wood Fassett, St. Joseph, Mo.

The Burlington's American Medical Special

The Burlington has arranged for an American Medical Special train, which will leave Chicago from the Union Station at 8:30 p. m., Monday, June 16, and will arrive in Minneapolis the following morning at 9 o'clock. This handsome train will carry the most modern equipment, including one of those thoroughly comfortable lounge cars, containing library, writing-desks, club-room for men, observation-room for women and a veranda sun-parlor entirely enclosed in glass.

The Burlington Route between Chicago and Minneapolis has been called for twenty years or more the Mississippi river scenic line. For almost the entire distance from Savanna, Ill., north, the rails are in sight of the majestic "Father of Waters," with a broad island-dotted expanse on the one hand and bluffs on the other. From Prairie du Chien to Lake Pepin, every reach and turn in the river presents to the eye magnificent scenes of grandeur and beauty. These scenes and the charm of Lake Pepin, along whose shores the American Medical Special passes for 30 miles, are alone enough to make the Burlington Route the choice of a great many. In addition, every mile is replete with historic and legendary interest.

A beautifully illustrated booklet, prepared exclusively for the American Medical Association, has been issued by the Burlington Railroad. This booklet gives information as to the route, rates, side-trips and hotels and a copy will be mailed on application. Reservations and other information may be obtained of A. J. Puhl, General Agent, Passenger Department, Burlington Route, 141 South Clark Street, Chicago.

Chicago Medical Society Special on the Chicago, Milwaukee and St. Paul

The Chicago Medical Society Special will leave the Union Station, Chicago, at 9:30 p. m., Monday, June 16, and will run by way of the Chicago, Milwaukee and St. Paul Railway. There is no return special. The train will consist of electrically lighted standard and compartment sleeping-cars, buffet-observation car and dining-car in which breakfast will be served while traversing the west bank of the beautiful Mississippi River from LaCrosse to Minneapolis, a distance of 140 miles.

The Chicago, Milwaukee and St. Paul Railway announces that it owns and operates all of its equipment, including sleeping-cars with berths that are "longer, higher and wider," and that nothing will be left undone to make the journey to Minneapolis a thoroughly enjoyable one. Sleeping-car reservations should be made as early as possible of C. N. Souther, General Agent Passenger Department, Chicago, Milwaukee and St. Paul Railway, 315 Marquette Building, Chicago, who will assign the space and confirm the reservation by letter.

Stop-Over Privileges at Rochester, Minn., on the Chicago Great Western

The Chicago Great Western announces that it is the only road by which one may pass through Rochester, Minn., the home of St. Mary's Hospital and the Mayos, without paying additional fare. Tickets between Chicago, Kansas City, St. Joseph, Des Moines and St. Paul and Minneapolis are good either direct or via Rochester at the passenger's option. Sleeping-cars are operated daily between Chicago and Rochester, as well as by the direct line between Chicago and Minneapolis. Convention tickets permit stop-over.

Four years ago a consultation was held over a badly rundown patient. Some of the foremost doctors in the country were called in, chief among whom was the late J. Pierpont Morgan. The consultation was held in New York, the patient being the Chicago Great Western Railway.

The normal function of the Great Western was the hauling of passengers and freight. As it was needed in constant service no "rest cure" was feasible. The railroad doctors therefore prescribed an abundant money chest to be drawn on freely in procuring new rolling-stock, bridges, terminals, automatic safety signals, new track and ballast—in fine, to build practically a new body. It is doubtful if ever there was a case on record in which the diagnosis was more accurate and certainly there has never been recorded a case in which the recovery was more rapid and complete.

To-day the Chicago Great Western is looked on as a strong line and a perfect artery for travel.

The Northwestern Line

The trains of the Northwestern leave from the new passenger terminal, which is one of the finest monuments ever erected to the commercial life and spirit of the West. The rails are heavy and the track straight, so that an excellent night's rest can be taken before the passenger awakes in Wisconsin. The morning ride is through a charming open country, leading to St. Paul, which is built on the bank of the Mississippi River, on a series of imposing hills, almost directly opposite Minneapolis. In addition to its commercial activities it can boast of a beautiful location, delightful climate, numerous points of historical interest and an unending list of summer attractions. The Indian Mounds, the Fish Hatchery, Fort Snelling, Como Park, Minnehaha Falls and the State Capitol Building are all well within the city limits, and Lake Minnetonka and White Bear Lake are close at hand.

The Northwestern Line is splendidly equipped and handles a heavy traffic expeditiously.

It will be seen from the foregoing that railway facilities to Minneapolis are of the first order, and each of these railways will undoubtedly be used by members attending the annual meeting. The fare from Chicago to Minneapolis and return will be $16, double lower berth $2, section (double lower and upper) $3.60, compartment $5 and drawing-room $7.

OUTSIDE EXCURSIONS

Many physicians and their families, attending the Minneapolis meeting, will wish to extend their annual holiday by way of excursions to the great sight-seeing regions of the Northwest.

A special committee on arrangements, appointed for this purpose, has planned several notable trips which are offered, at summer tourists' rates, to their guests.

On previous pages of this issue are some views of the scenes on these trips.

The Yellowstone National Park

Parties will go by two special trains on a twelve days' excursion to the Yellowstone National Park, June 20 and 21. The Northern Pacific Railway will furnish these trains, and it promises something in the way of dining-car service that cannot be equaled anywhere in the country. It is an unusually interesting fact that the Northern Pacific owns and manages its own poultry and dairy farms, maintains its own bakeshops, and prepares all its meats in its own shops. The line has become famous as the "Big Baked Potato Route."

Dr. H. H. Kimball of Minneapolis, Chairman of the Excursion Committee, will make his third tour of the park with one of the special parties, and his committee is making every arrangement for the comfort and pleasure of the party. Both the Northern Pacific Railway and the Yellowstone Park Hotel Company will have many special features for this entertainment. This is not a trip that entails any hardships. The entire tour of the park is made in large comfortable Concord coaches, and there is no horseback riding to do unless one is looking for that sort of travel. The highest altitude reached is a little over eight thousand feet, so that there is no danger in advising the most delicate persons to make the trip.

The Chicago party will occupy two special sleepers of their own. Reservations from other points scattered from Missouri River points to the Atlantic coast have now taken about all of two other cars, and judging from inquiries that are coming in to the Excursion Committee, all of the space on the two special trains already arranged for, will be taken by the date of the opening of the meeting.

The Rainy Lake Country

Another possible trip to northern Minnesota extends to the beautiful Rainy Lake country. Minneapolis physicians who own islands at Rainy Lake, which lies on the international boundary line, will entertain friends at their summer home.

Glacier National Park

Still another excursion for rest and recreation will be made to the wonderful Glacier National Park. This "personally conducted tour" through Glacier National Park will leave Minneapolis at 11:15 p. m., Friday, June 20, consuming eleven days for the round trip, eight and a quarter of which will be spent in viewing the wonders of Glacier National Park, while the balance of the time will be occupied *en route* through the famous farming and grazing regions of Minnesota, North Dakota and Montana.

Arriving at Glacier Park Station (eastern entrance) at 7:33 a. m. the second morning, breakfast will be taken at the new Glacier Park Hotel, erected at an expense of $100,000, and automobiles will be taken at 10 a. m. for St. Mary's Camp, 32 miles north. The trip from here will be via stage, launch and saddle horses to the various camps in the interior of the park. These camps, of which there are eight, are built on the Swiss chalet plan and the sites are selected on account of their convenience and beauty.

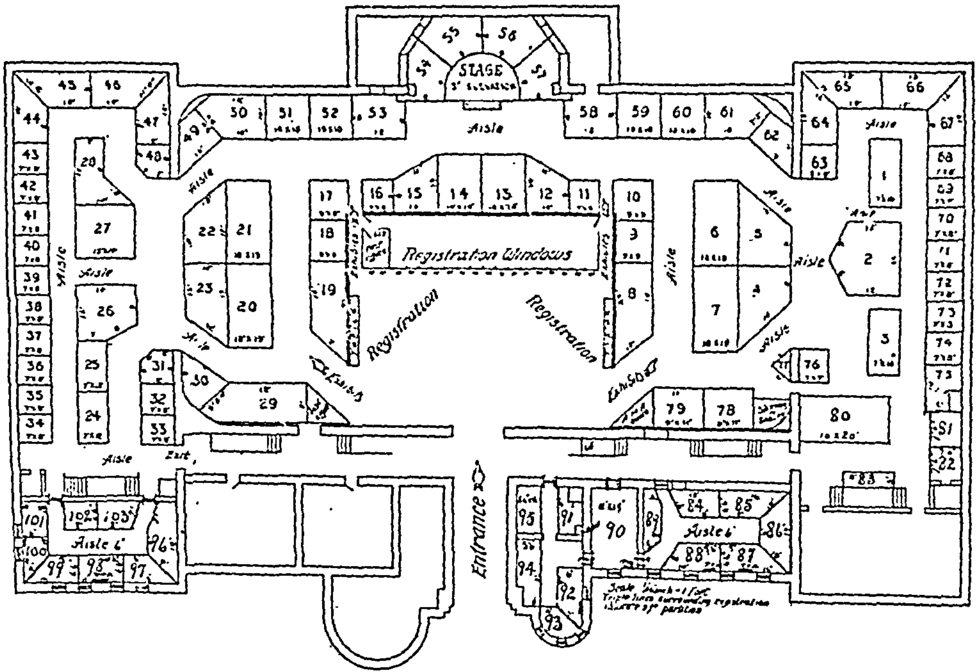


Fig. 21.—A diagram of the University Armory, showing the Registration Department and the Commercial Exhibit.

In addition to the main tour, another has been arranged to accommodate those guests who do not desire to use saddle-horses.

While the Great Northern Railway dining-car service arranged is à la carte, the cost of the trips, on the all-expense plan, will be per capita $105, on the basis of $1 per meal on the diner. Members going to the Pacific Coast or to Alaska can stop over at Glacier Park Station and make this trip at a cost of $48, which includes all hotel and transportation expenses in the park.

A special illustrated itinerary has been printed and will be sent anyone on application to Dr. H. H. Kimball, chairman Excursion Committee. Reservations should be made as early as possible.

For those who desire to extend the trips from the Yellowstone National Park or the Glacier National Park to farther points, special opportunities will be given for excursions to the Colorado Rockies, to the Canadian Rockies, to California and the Puget Sound country, and on to Alaska for a twelve days' cruise by way of the Inland Passage, including visits to some interesting Indian and Eskimo villages and to some of the finest of the Alaskan glaciers.

Alaska—Along the Shores and Beyond

From Seattle there are two lines of excursion steamers. Stops *en route* to Skaguay are made at all of the interesting ports, Prince Rupert, Ketchikan, Metlakahtla, Wrangell, Juneau, the great Treadwell gold mine, Sitka, and the glaciers, including Taku, now the most beautiful glacier along the shores of Alaska. The steamers contain two-berth rooms, and serve excellent meals. All of the steamers except the *Spokane* permit their passengers to stop off at Skaguay.

To form an idea of the inland voyage to Skaguay, one should imagine sailing up a river from a half to six miles in width for a thousand miles. The shores are lined with towering snow-capped mountains, verdure-clad below their summits down to the water's edge, and down their sides innumerable cascades rush tumultuously seaward. Countless islands are scattered throughout the course; here and there are glittering mammoth glaciers, and interesting Indian villages with their quaint totem poles. Yet as wonderful as is this voyage it is but a prelude to a trip of still greater scenic grandeur and interest from Skaguay to White Horse and Atlin, or down the great Yukon River to Dawson. Skaguay, the end of the voyage north, is the gateway to the fascinating interior, a land of flowers and sunshine, of delightful summers and indescribable grandeur—the Land of the Midnight Sun. An interesting trip is from Skaguay by rail via the White Pass and Yukon Route through the mountains to White Horse on the Yukon River, 110 miles from Skaguay. Nowhere can there be seen more awe-inspiring scenery than along this pioneer railway of Alaska. As one sits in comfort in the cars one can look down hundreds of feet below and see the old trail over which the gold-seekers in '97 and '98 were wearily toiling with packs on their backs to reach the summit of White Pass and then Lake Bennett.

On this trip one travels over the ground made memorable by that mad rush to the Klondike. There is Dead Horse Gulch, the once dreaded White Pass, Log Cabin, Miles Canyon, White Horse Rapids, and many other historic places.

Returning from White Horse the steamer awaits the passenger at Caribou (68 miles from Skaguay) that will carry him a distance of 80 miles through a chain of wondrously beautiful mountain-girt lakes to Atlan, described by a famous traveler as "the beauty spot of the world." At the head of Lake Atlin is the great Llewellyn Glacier, covering an area of 60 by 100 miles, said to be the largest glacier in the world outside of the polar regions.

THE COMMERCIAL EXHIBIT

Books, Instruments, Surgical Appliances, Foods, Drugs, Furniture, Etc., to be Shown at Minneapolis

It is the aim to make the Commercial Exhibit each year of educational value to physicians rather than a mere trade show. The articles to be displayed this year have been carefully selected so as to carry out this conception of what the exhibit should be. It is of importance that the physician should keep posted on the newer medicinal, biologic and therapeutic products and the newer instruments, books, appliances and methods. The annual exhibit at the session of the American Medical Association affords the busy man an opportunity to accomplish this with the least expenditure of time. Enterprising manufacturers and publishers keep abreast of the new discoveries in medicine and surgery, to the advantage of the physician; and it is to the mutual advantage of the physician and the exhibitor that attention should be given to the displays at the annual meeting.

Following we give a list of the exhibitors and then a series of brief notices concerning those firms from whom we have been able to secure a statement for the purpose.

On the preceding page is a diagram showing the location of spaces in the Exhibit Hall.

Exhibitors

	Space
Allison Co., W. D.—Indianapolis............	52
Ambulatory Pneu. Spl. Mfg. Co.—Chicago..	76
Anatomik Footwear Co.—New York City....	3
Apollinaris Agency Co.—New York City.....	34
Appleton & Co., D.—New York City........	79
Arlington Chemical Co.—Yonkers, N. Y. ..	57
Bass Islands Vineyards Co.—Sandusky, Ohio	99
Bausch & Lomb Opt. Co.—Rochester, N. Y.	37-38
Betz Co., Frank S.—Chicago...............	21-22
Blakiston's Son & Co., P.—Philadelphia.....	78
Bolen Mfg. Co.—Omaha, Neb.	82
Borcherdt Malt Extract Co.—Chicago.......	88
Brady & Co., Geo. W.—Chicago............	92
Burroughs Wellcome & Co.—New York City.	14
Buzzell-Flanders Co.—Boston	103
Campbell Electric Co.—Lynn, Mass.	56
Carnes Artif. Limb Co.—Kansas City, Mo...	59
Castle Co., Wilmot—Rochester, N. Y.	51
Chicago Medical Book Co.—Chicago........	19
Clark & Roberts Co.—Indianapolis..........	47
Cleveland Press.—Chicago	77
Comfort Spring Cot Co.—Chicago...........	84
Davis Co., F. A.—Philadelphia............	11
Deimel Linen Mesh System Co.—New York..	13
De Vilbiss Mfg. Co.—Toledo, Ohio..........	69
Der Kurdirector Bad Nauheim—Germany...	81
DeZeng-Standard Co., The.—Camden, N. J.	62
Draeger Oxy. Apparatus Co.—Pittsburgh....	89
Electro-Surg. Inst. Co.—Rochester, N. Y. ...	60
Fairchild Bros. & Foster.—New York City..	58
Forbes Dry Plate Co.—Rochester, N. Y.	40
Funk & Wagnalls Co.—New York City......	96
Geneva Optical Co.—Chicago	98
Greeley Laboratories, Inc.—New York City..	97
Hardy & Co., F. A.—Chicago...............	27-28
Horlick's Malt. Milk Co.—Racine, Wis.	49-50
Jaeckh Mfg. Co.—Cincinnati	33
Johnson & Co., Mead.—Jersey City, N. J. ..	44
Lea & Febiger.—Philadelphia	20
Leitz, Ernst—New York City..............	12
Life Saving Devices Co.—Chicago...........	86-87
Lippincott Co., J. B.—Philadelphia........	8
Macalaster, Wiggin Co.—Boston............	48
Medical Protective Co.—Fort Wayne, Ind...	83
Mellin's Food Co.—Boston.................	26
Meyer Co., Wm.—Chicago	73-74-75
Meyrowitz, Inc., E. B.—New York City....	61
Miller Rubber Co., The.—Akron, Ohio......	35-36
Minneapolis Bedding Co.—Minneapolis	67
Mosby Medical Book & Pub. Co.—St. Louis..	25
Mueller & Co., V.—Chicago................	29-30
Mulford Co., H. K.—Philadelphia...........	45-46
Myers-Dillon Drug Co.—Omaha, Neb.	66
National Pathological Lab.—Chicago........	30
Noyes Bros. & Cutler.—St. Paul, Minn.	90-94
Pulvola Chemical Co.—Jersey City, N. J. ..	70
Rebman Company.—New York City.........	68
Roessler & Hasslacher Chem. Co.—N. Y. C.	91-95
Saunders Co., W. B.—Philadelphia..........	4-7
Scanlan-Morris Co.—Madison, Wis.	41-42-43
Scheidel-Western X-Ray Coil Co.—Chicago..	2
Searle & Co., G. D.—Chicago...............	31
Sischo & Beard.—St. Paul, Minn.	32
Smith, Kline & French Co.—Philadelphia....	24
South. Asep. Cotton Co.—Chattanooga.....	100-101
Spirella Co., Inc., The.—Meadville, Pa. ...	17-18
Squibb & Sons, E. R.—New York City....	80
Taylor Instrument Co.—Rochester, N. Y. ...	5-6
Teter Mfg. Co.—Cleveland, Ohio............	71
Victor Electric Co.—Chicago..........	1, 63, 64-65
Wampole & Co., H. K.—Philadelphia........	53
Wappler Electric Mfg. Co.—New York City..	9-10
Waterman Waterbury Co., The.—Minneapolis	72
Welch Grape Juice Co.—Westfield, N. Y. ..	15-16
Wilson Co., The H. W.—Minneapolis......	
Wilson & Wilson.—Boston	85
Winkley Artif. Limb Co.—Minneapolis.....	54-55
Wood & Co., Wm.—New York City.........	23
Year Book Publishers.—Chicago............	39

Publishers and Books

D. Appleton & Company, New York. Space 79. For over fifty years D. Appleton & Company have been publishers of standard medical books. It has been their constant aim to give to the profession only works of individuality, distinction and absolute reliability. Their list has grown slowly; additions have been made with care and discrimination. The APPLETON name has come to be a guarantee of scientific presentation, sound judgment and ripe experience.

P. Blakiston's Son & Co., Philadelphia. Space 78. "Portraits of Famous Medical Authors" will be distributed free at the exhibit. There will also be shown an extensive line of advanced medical books. A purchaser of Blakiston's books writes, "I have a number of your publications and want more. I have come to think that "B" means Best."

F. A. Davis Company, Philadelphia. Space 11. Will exhibit among other books of unique and unusual interest several volumes of Sajous' new "Cyclopedia of Practical Medicine," thin paper, revised; new and revised editions of Ball's "Modern Ophthalmology," Phillips' "Ear, Nose and Throat," Bassler's "Diseases of the Stomach" and Morton's "Genito-Urinary Diseases." Also Lorand's "Rational Diet," Pettey's "Narcotic Drug Addictions," etc., etc.

Funk & Wagnalls Company, New York. Space 96. Besides the widely read weekly, *The Literary Digest*, and the famous NEW "Standard Dictionary," many valuable new medical books, including Herman's "Diseases of Women," Choyce's "Surgery," Berkeley and Bonney's "Gynecology," Bishop's "Blood Pressure," Hollander's "First Signs of Insanity," are published by this long-established house.

Lea and Febiger, Philadelphia and New York. Space 20. Especially valuable is Lea & Febiger's library of treatment, comprising White & Jelliffe's "Modern Treatment of Nervous and Mental Diseases," Hare's "Modern Treatment" (general), and Cheyne & Burghard's "Surgical Treatment." Also Koplik on "Children," Török & Grout's "Surgery of the Eye," Starr on "Nervous Diseases," Weeks on the "Eye," Stimson on "Fractures and Dislocations," and Hertzler on "Tumors."

Year Book Publishers, Chicago, Space 39. This booth will be devoted to the "Practical Medicine Series," the standard authority on the world's progress in Medicine and Surgery. Volumes for 1913, as well as for previous years, will be on exhibition. The series comprises ten volumes and presents, in complete and permanent record, the latest development in every department of Medicine and Surgery.

J. B. Lippincott Company, Philadelphia. Space 8. This exhibit will contain a number of new and authoritative works on special subjects which will interest all physicians. Among them are Skillern's "Accessory Sinuses of the Nose," Kerrison's "Diseases of the Ear," Nonne's "Syphilis and the Nervous System," etc., etc.

The C. V. Mosby Company, St. Louis. Space 25. Will show the new and complete edition of the Golden Rule Series, five volumes; also a number of new monographs, such as Pottenger's "Muscle Spasm and Degeneration." Pottenger's "Tuberculin," Warfield's "Arteriosclerosis," Freeman's "Skin Grafting," Sophian's "Epidemic Cerebrospinal Meningitis," Schorer's Vaccine and Serum Therapy," and Portner-Lewis' "Diagnosis and Therapy of Genito-Urinary Diseases." Also advance illustrations and prospectuses of Loeb's "Operative Surgery of the Ear, Nose and Throat."

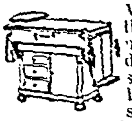
Rebman Company, New York. Space 68. In addition to well-known high quality atlases, a special display will be made of Adam's "Ophthalmoscopic Diagnosis" and Zinsser's "Diseases of the Mouth," both new; [illegible] h as [illegible] rdner, [illegible] and Wegele's wor[illegible] of the Gastro-Intestinal Tract," and splendid textbooks, as "Guide to Midwifery," by Berry Hart, and "A Course in Normal Histology," by Rudolf Krause.

Cleveland Press, Chicago. Space 77. At this space especial attention will be given to the new *American Encyclopedia and Dictionary of Ophthalmology*, edited by Casey A. Wood, M.D., C.M., D.C.L., and a large staff of earnest co-workers. Every practicing ophthalmologist should call at this booth.

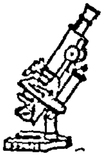
W. B. Saunders Company, Philadelphia. Spaces 4 and 7. Some of the new books and new editions in this exhibit of particular interest to physicians are these: The New [illegible] tines a [illegible] for 19 [illegible] Brill's [illegible] Room [illegible] Feeding [illegible] Bohn a[illegible] Massage [illegible] also to be exhibted advance sheets and illustrations of other new editions.

William Wood and Company, New York. Space 23. New and up-to-date medical books, notable among which may be mentioned: "Reference Handbook of the Medical Sciences," Cunningham's "Manual of Practical Anatomy," Schmieden's "Operative Surgery," [illegible] "Medical [illegible] atry," Cab[illegible] ison & C[illegible] Savill's "C[illegible] Chalmers' [illegible]

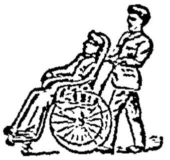
Apparatus, Instruments and Furniture



W. D. ALLISON CO., Indianapolis. Space 52. Attractive, practical and time-saving office devices will be shown at this space. Automatic tables of the highest type; ingenuously designed medicine cabinets; examining and treatment chairs; stools; stands; waste receptacles; reception-room furniture and everything incident to the complete modern office. Representative styles will be on exhibit and are commended to careful consideration.

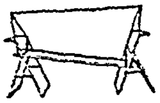


BAUSCH & LOMB OPTICAL CO. Rochester, N. Y. Spaces 37 and 38. New models in microscopes, microtomes, centrifuges and other laboratory apparatus and supplies for physicians will be displayed by this firm. The instruments shown will form an instructive demonstration of the most recent improvements in diagnostic apparatus which advances in laboratory examination have made necessary.



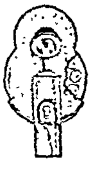
FRANK S. BETZ CO., Chicago. Spaces 21 and 22. This exhibit will consist of an *unusually* large display of surgical instruments, batteries, operating-tables, lamps, coils, sterilizers, high-frequency outfits and complete medical, surgical and hospital equipment.

CLARK & ROBERTS CO., Indianapolis. Space 47. An interesting exhibit of metal surgical furniture. Among the new appliances to be shown will be found metal tables for physicians' office use, steel instrument cabinets for physicians and specialists, also specialists' complete outfits.



COMFORT SPRING COT COMPANY, Chicago. Space 84. This invention is intended to solve most of the difficulties of outdoor sleeping, temporary and permanent accommodations for berths and the transportation of invalids. The main features to be demonstrated are the unusual comfort afforded the patient, due to the four springs by which the cot part is suspended and its sanitary convenience, the canvas part being readily removable for purposes of cleaning.

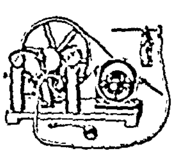
DEVILBISS MANUFACTURING CO., Toledo, Ohio. Space 69. A display will be made of their full line of appliances. A special demonstration will be made of the DeVilbiss Prescription Medicalizer, No. 16.



DEZENG-STANDARD CO., Camden, N. J. Space 62. In addition to a full line of electrically lighted diagnostic instruments for eye, ear, nose and throat work, there will be on exhibition a brand new instrument for doing refraction and muscle work; also muscle exercise. Among the several new things of particular merit on display will be the new electric perimeter and the new electric ophthalmoscope with perfect translucent color test. The new DeZeng Prism Ophthalmoscope will be displayed for the first time at this meeting.

GENEVA OPTICAL COMPANY, Minneapolis. Space 98. New styles in eyeglasses, spectacles and instruments, especially the Elastik Eyeglass and the Geneva *ophthalmoscope* and retinoscope, ophthalmometers, phoro-optometers, etc. This company specializes largely in specially ground lenses and prescription filling for oculists.

F. A. HARDY & COMPANY, Chicago. Spaces 27 and 28. Newest and latest designs of eye, ear, nose and throat instruments will be exhibited. Also a complete line of ophthalmological instruments and apparatus.



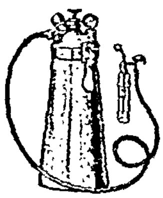
THE JAECKH MANUFACTURING CO., Cincinnati. Space 33. Complete compressed air and vacuum apparatus for all medical and dental purposes will be demonstrated. These outfits occupy small space, are easy to operate and by means of special valve equipment the pressure can be regulated to any desired force.

ERNST LEITZ, New York City. Space 12. In addition to microscopes, microscopic accessories and microtomes as used in the medical profession, the physician will have opportunity to see numerous other devices as used in educational work, but at the same time of interest to the profession. Such instruments will include microscopes for research, photomicrographic apparatus, universal projection apparatus, drawing apparatus, etc.

LIFE SAVING DEVICES CO., Chicago. Spaces 86-87. The Lungmotor, a device for inducing artificial respiration mechanically, will be ingeniously demonstrated on a wax figure with rubber lungs, and electric illumination. This will show the practical processes of the induction of inspiration and expiration by this ingenious but simple machine. Especially useful for asphyxia by gases or fumes, asphyxia neonatorum, apparent drowning, strangulation, etc.

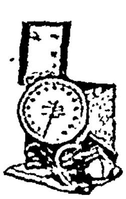
E. B. MEYROWITZ, INC., New York. Space 61. Will show their standard model ophthalmometer, a new trial frame, the Schiötz tonometer, Zeiss binocular loupe, the Hertel exophthalmometer, improved electric ophthalmoscope with independent pocket battery and rheostat, a full line of scleral trephines, a "shockless" socket rheostat and a number of novelties in surgical instruments.

V. MUELLER & CO., Chicago. Spaces 29 and 30. As in *former years*, this firm will display a line of surgical instruments and apparatus, but a more complete exhibit will be made than in the past. All of the latest patterns of instruments, both of American and European make, will be shown. Surgical instruments for the eye, ear, nose and throat specialist, gynecologist, genito-urinary specialist and general surgeon; also specialties for the radiographer will be exhibited.

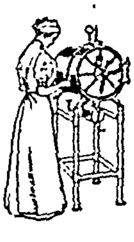


THE ROESSLER & HASSLACHER CHEMICAL COMPANY, New York, Chicago, etc. Spaces 91 and 95. The latest oxone-oxygen generator — Autogenor— automatically producing its own pressure up to 50 pounds, under perfect control of the operator, and adjustable for any purpose, will be shown. *Used for* vapor and spray medication, for insufflations, injections, for *ordinary inhalations* and for anesthesia, the machine makes oxygen therapy a practicable feature in the hands of the *practi*tioner, the nose and throat specialist and the surgeon.

SCANLAN-MORRIS COMPANY, Madison, Wis. Spaces 41, 42 and 43. Hospital furniture, sterilizing apparatus and aseptic office furnishings. Among the new articles to be shown by this firm are the Minnesota *design B3* operating-table; 1914 pattern high-pressure dressing sterilizer, and a complete line *of* aseptic office furniture suitable for the specialist, physician and for the surgeon.



TAYLOR INSTRUMENT COMPANIES, Rochester, N. Y. Spaces 5 and 6. The Dr. Rogers' Tycos Sphygmomanometer, in both the pocket and the new office patterns, will be demonstrated. The large dial (8-inch diameter) of the latter, graduated to 300 mm., affords an open reading which can be easily read 12 to 15 feet distant. Tycos fever thermometers, urinary analysis glassware and other instruments of medical and surgical interest will be exhibited.



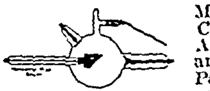
WILMOT CASTLE CO., Rochester, N. Y. Space 51. Sterilizing Apparatus for hospitals, laboratories and physicians' offices, incorporating the latest features in design and construction will be exhibited by this firm. The apparatus will demonstrate the possibility of installing in a limited space a service that renders efficient and adequate sterilization for any particular office or institution.

Apparatus—Electric

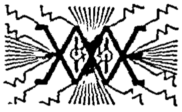
PARAGON
X-RAY
PLATES

GEORGE W. BRADY & CO., Chicago. Space 92. There will be exhibited some of the work done by various x-ray *operators* who are using the new Paragon X-Ray Plates. These plates are said to have met with great success since placed on the market, owing to their very fine quality and great speed. Mr. Brady will be pleased to meet all using x-ray.

FORBES DRY PLATE CO., Rochester, N. Y. Space 40. An exhibition of Forbes x-ray plates. During the past year these plates have been introduced on the basis of true quality alone into the largest hospitals and used by many of the leading x-ray workers in the United States. Physicians who attended the previous meeting will be interested to observe the progress which has been made by this firm during the past year.



MACALASTER - WIGGIN CO., Boston. Space 48. An exhibit of x-ray tubes and various accessories. *Particular attention* will be called to the penetrator type of tube for heavy work. With this tube much better definition and penetration are obtained with the same amount of current than with any other tube. Tungsten target tubes are giving splendid satisfaction, and those to be exhibited *at this* booth will be well worth investigating.



THE WM. MEYER CO., Chicago. Spaces 73 to 75. Will show an entirely new line of INTERRUPTERLESS x-ray equipments, as well as other electrical apparatus, and will demonstrate their absolute method of obtaining radiographs. The new high speed "AGFA" X-RAY PLATES will be shown and also INTENSIFYING SCREENS of an entirely new type.

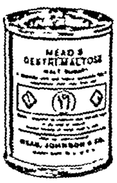
VICTOR ELECTRIC COMPANY, Chicago. Spaces 1, 63, 64, 65. Aside from their standard line of electromedical and x-ray apparatus, a number of recent additions will be on exhibition, among which might be mentioned: Victor Interrupterless X-Ray Transformer; combination fluoroscopic, stereoscopic and radiographic tube stand; combination stereoscopic and radiographic table; new type of [illegible] line of electric steri[illegible]; 1913 model of th[illegible] outfit; and several [illegible]

Scheidel-Western X-Ray Coil Company, Chicago. Space 2. Will demonstrate a complete x-ray equipment from the 12-kilowatt transformer to the smallest portable coil. A special attraction will be the fluoroscopic outfit in actual operation, as there is sure to be much interest for this special work.

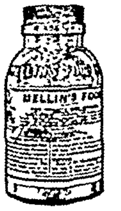
Foods and Milk Preparations

Bass Islands' Vineyards Company, Sandusky, Ohio. Space 99. Physicians and nurses are invited to call at our exhibit and receive a sample of our absolutely pure grape juices. The grapes from which our grape juice is expressed are from the famous vineyards on the Lake Erie Islands, justly famed for producing the best grapes grown in the world.

Horlick's Malted Milk Company, Racine, Wis. Spaces 49 and 50. Will exhibit and demonstrate the original genuine Horlick's Malted Milk, the record of which, as a nutrient, for almost thirty years, is sufficient testimony of its physiologic worth and excellence as a food product. We will also exhibit Horlick's Malted Milk Lunch Tablets, plain and with cocoa flavor. Horlick's Malted Milk Ice Cream will be served at certain hours during the convention.



Mead Johnson & Company, Jersey City, N. J. Space 44. An exhibit of their Dextri-Maltose (pure maltose and dextrin in about equal parts) will be made. It is nonproprietary and is a practical duplicate of the malt-sugar and dextrin preparations made in Germany, where they are largely used by pediatrists, especially those who employ the Finkelstein method of infant feeding.



Mellin's Food Company, Boston. Space 26. A special effort will be made to furnish physicians with complete information regarding the materials that enter into the manufacture of Mellin's Food, the care used in the making, uniformity of composition, analysis of the product itself and when ready for actual use. Some new work is promised, having special reference to the usefulness of maltose and dextrin, as well as the early history of the chemistry of carbohydrates.

ESKAY'S
Albumenized
FOOD

Smith, Kline & French Co., Philadelphia. Space 24. Will exhibit tubes of milk and milk modified with Eskay's Food acted on by artificial gastric juice, to show the effect their cereal modifier has on the curd, rendering the milk more digestible. They will also exhibit jars containing the ingredients out of which their product is manufactured; that is, barley, wheat and oats, sugar of milk and eggs.

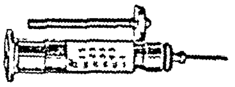
Pharmaceuticals and Biologic Products

Arlington Chemical Co., Yonkers, N. Y. Space 57. As in previous years, the makers of liquid peptonoids and hemaboloids, preparations which are well and favorably known to physicians, will be represented in the exhibit hall, where, in charge of courteous and competent representatives, these preparations will be displayed together with other features which cannot fail to prove of interest to all who make it a point to visit the exhibit.

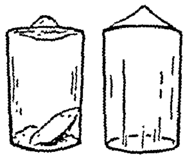
Borcherdt Malt Extract Co., Chicago. Space 88. Mr. F. H. Borcherdt and Mr. E. B. Wilson will demonstrate the manufacture of a pure barley malt extract; also the preparation of Dr. Keller's Malt Soup from Borcherdt's Malt Soup Extract will be shown. Borcherdt's Malt-Olive with hypophosphites will be exhibited and samples of these products will be available.

Burroughs Wellcome & Co., New York. Space 14. An exhibit of their pharmaceutical preparations issued under their various trade-marks. Among these will be included "Tabloid," "Soloid," "Vaporole" products, "Tabloid" brand [illegible] substances, "Wellcome" [illegible] vaccines and an assortmen[illegible] brand medicine cases, suitable for every need the physician has in this direction.

Fairchild Bros. & Foster, New York City. Space 58. This exhibit will consist of standardized products of the gastric and pancreas glands; special enzyme products—trypsin, amylopsin, etc.; bile salts; a colonic food; culture of the *Bacillus bulgaricus*—all approved and interesting.



H. K. Mulford Company, Philadelphia. Spaces 45-46. A scientific exhibit of bacterins, serums and vaccines. Showing methods of production with working bulletins compiled from the latest information on the special subjects treated. This is not only designed to be an interesting but a scientific exhibit to aid every practitioner.



Pulvola Chemical Co., Jersey City, N. J. Space 70. See their unique tumbler test demonstration, showing (with comparisons) the non-absorbent quality of Pulvola. "The Doctors' Baby Powder" and general toilet, face and foot powder; also of Dolomol, the dry ointment or stearated dusting powder, in 20 medications on a neutral base (magnesia, not zinc), absolutely impervious and bland. See their white Ichthyol, odorless, dry, impalpable, adherent, non-crusting—the ideal dressing for chronic leg ulcers, bed sores, etc.

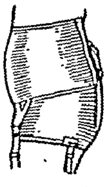
G. D. Searle & Co., Chicago. Space 31. The interesting feature of this exhibit will be the display of specially prepared, uniformly soluble hypodermic tablets.

E. R. Squibb & Sons, New York. Space 80. Will give a demonstration of the disintegrability of their tablets and also exhibit a representative collection of their high quality chemicals and pharmaceuticals, together with some of the impurities removed from the regular U. S. P. grade of products in the process of repurification necessary to bring the articles up to the Squibb standard.

Henry K. Wampole & Co., Inc., Philadel- [illegible] complete line of phar- [illegible] will be displayed by [illegible] those prominently identified with U. S. P. and N. F. standards. Pulverous pills, fluidextracts, elixirs, syrups, solutions, tinctures, ointments, soft elastic and hard gelatin capsules, effervescent salts, lozenges, compressed and hypodermic tablets will be aptly displayed in illustration of the advanced achievements to-day of the manufacturing pharmaceutist.

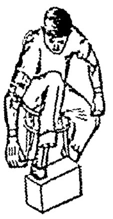
Artificial Limbs and Supportive Appliances

Ambulatory Pneumatic Splint M'f'g Co., Chicago. Space 76. At this booth a practical scientific demonstration of the application and use of the Ambulatory Pneumatic Splint will be given. It will be shown how this splint secures good bony union, with the greatest comfort. "Ambumatic" washable abdominal supporters and braces will also be shown.



Bolen Manufacturing Co., Omaha. Space 82. Models will be used to demonstrate the practicability and many new ideas carried out in the "B. P." Abdominal Supporters. This exhibit will be of interest to all physicians as special explanations will be made for their benefit regarding the important points in the manufacture and adjustment of a perfect supporter.

Anatomik Footwear Co., New York. Space 3. A demonstration showing why many physicians prescribe shoes with this trademark as being the only shoes that satisfy the functional needs of the feet, correcting and preventing foot troubles (from plain foot-ache to bad flat-foot), and offering for the normal foot the comfort that is associated with its unimpeded natural action.



Carnes Artificial Limb Co., Kansas City, Mo. Space 59. A demonstration of mechanical artificial arms and hands by people wearing them for amputations both above and below the elbow. This should be of great interest to surgeons, especially as the artificial arm demonstrated has nearly all of the movements of the natural arm and hand, such as bending elbow, automatic opening and closing fingers, and rotating and flexing wrist.

Mineral Waters

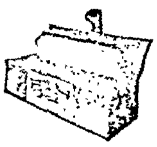
Apollinaris Agency [illegible] Apollinaris water, whi[illegible] and naturally effervesc[illegible] It is bottled only at t[illegible] Neuenahr, Germany, and only with its own natural gas, as stated on the label. The same company will also exhibit "Apenta," the Hungarian natural aperient water, which is noted for its well proportioned content of magnesium sulphate and sodium sulphate.

Myers-Dillon Drug Co., Omaha, Neb. Space 66. Will exhibit Mountain Valley Water. It is recommended as an eliminant and in the treatment of auto-intoxications. The complete analysis of Mountain Valley Water has been carefully made by competent chemists. Physicians will be given an opportunity to examine this analysis and decide for themselves as to the special indications for the use of water.

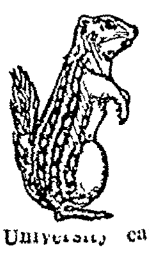
Miscellaneous

Deimel Linen-Mesh System Co., New York. Space 13. Physicians will have an opportunity to inspect the Dr. Deimel linen-mesh underwear. The different styles and sizes of the garments for men, women and children will be displayed.

National Pathological Laboratory, Chicago. Space 30. Complete medical analyses, including the $5 five antigen Wassermann, will be demonstrated. Meet our serologist, state suite, parlor floor, Radisson Hotel, for information regarding all complement-fixation tests and general laboratory work. Gray Oil syringes will be displayed and instructions given for their use.



Southern Aseptic Cotton Co., Chattanooga, Tenn. Spaces 100 and 101. This exhibit will be interesting and instructive. Aseptic cartons will be shown, which are so prepared for the market that a portion of the absorbent cotton and surgical gauze can be drawn through a slot and cut off, leaving the remainder protected from septic contamination.



The H. W. Wilson Co., Minneapolis. We will be there with a stock of maroon and gold bunting, souvenirs of the University of Minnesota, post-cards of all the medical buildings. Our store, known as the "University Book Store," is located at 1401 University Ave. S.E.—opposite the entrance to the University campus.

The Journal of the
American Medical Association

Published Under the Auspices of the Board of Trustees

VOL. LX, NO. 20 CHICAGO, ILLINOIS MAY 17, 1913

ANTIVIVISECTION LEGISLATION: ITS HISTORY, AIMS AND MENACE *

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BOSTON

The early triumphs of experimental biology, about the middle of the last century, *led to its rapid development* as a means of advancing knowledge of physiology, bacteriology, pathology and, later, of other medical sciences. Accounts and rumors of experiments on animals soon aroused fears that many cruel and needless operations were being performed. In Great Britain popular clamor, stirred by the energy of a group of doctrinaires, culminated in the appointment, in 1875, of a royal commission to investigate and report the conditions under which animal experimentation was being *conducted*. So little had the sciences of pathology and bacteriology profited at that time by use of the new method that physiology almost alone was on trial at the hearings. In spite of this limitation of evidence the strong testimony forced the commission to conclude that abolition of animal experimentation, conducted to *mitigate human suffering and* prolong human life, would be impossible; and the commission therefore recommended a law licensing proper persons to engage in the practice, ensuring the avoidance or minimizing of pain, and providing for inspectors "of such character and position as *to command the confidence* of the public no less than *that of men of science*."

A writer in *Nature*, at that time (1876, p. 248), characterized this recommendation and its result in legislation as follows: "The evidence on the strength of which legislation was recommended went beyond the facts, the *report* went beyond the evidence, the recommendations beyond the report, and the bill can hardly be said to have gone beyond the recommendations, but rather to have contradicted them." Some of the most objectionable features of the bill, according to Sir Michael Foster,[1] were *added as it* was being passed through committee in Parliament.

The result of this measure has been that all British experimenters work on ticket of leave. The securing of the ticket is a slow process because of the large amount of red tape involved. In consequence, sudden or *unexpected* opportunities for *research cannot* be utilized. And if in the course of an investigation a new line of inquiry is suggested — an event which is often the most valuable and significant phase of the investigation — the ticket must be amended or a new ticket must be secured, to permit work in the new direction, and that means further delay and vexation and cooling of enthusiasm. Furthermore, for some experiments, securing a ticket is so hopeless that investigators must leave their work incomplete *or go abroad* in order to be permitted to pursue it. Study of the *effects of snake-bite, for example*, and search for antidotes — a matter of great importance to India because of the high mortality therefrom — had to be suspended in Great Britain because of the British act of 1876.[2]

One might suppose that, having secured such a degree of restriction of experiments *on animals, the antivivisectionists* would have rested content. Quite the contrary, however. Agitation against animal experimentation has nowhere else in the world been so violent and so continuous as in *Great Britain* during these past thirty-six years. In 1906, thirty years after the *British antivivisection* act was passed, the clamor and constant agitation led to the appointment of a second royal commission. After a very exhaustive inquiry, and after four years of study of the testimony, the commission reported that the scientific investigators, *with rare* exceptions, have "endeavored, with loyalty and good faith, to conform to the provision of the law," and that "the harrowing descriptions and illustrations of operations inflicted on animals, which are freely circulated by post, advertise*ment or otherwise*, are in many cases calculated to mislead the public." The *second commission* merely suggested a few minor changes in the law, all of them within the province of the administration, and not requiring amendment of the act by Parliament.

I have reviewed in *some detail* the *conditions* in Great Britain, because they offer an example for us. *In spite* of drastic legislation, which, as a "penal measure" (it was thus referred to at the time of its passage), placed scientific investigation under suspicious surveillance, antivivisection societies have multipled, their activities have been unrestrained, and their *aims now are avowedly* the total abolition of what has proved to be the most *fruitful* mode of progress in the medical sciences. Thus the passage of legislation in Great Britain has, on the one hand, *hampered and limited* the efforts of investigators, and, on the other, utterly failed to satisfy the demands of the antivivisectionists.

The reason for the two parties being irreconcilable, *the reason for compromise* being impossible, lies fundamentally in a difference of moral emphasis. No longer is it the main contention of the antivivisectionists that the use of animals for medical research is unprofitable, though that argument, strange to say, is still heard; they now take what they call "higher ground" and say that their opposition is based on the *great moral wrong* involved in the sacrifice of animals for man. As one of their witnesses stated, "I would not have one mouse painfully vivisected to save the greatest of human beings, or the life dearest to me." And recently a writer, in the Philadelphia *Journal of Zoophily* (December, 1912), has declared, "Vivisection is utterly detestable. It is immoral and demoralizing. Antivivisectionists should keep up an unceasing agitation and work unitedly in asking legislatures for laws of an entirely prohibitory character." All the antivivisection societies of Great Britain, and all but two or three of the societies in this country, exist expressly for the purpose of abolishing utterly operations on animals for medical and biological research.

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* This paper is one of the series *prepared for* and *reprinted* by the Bureau for the Protection of Medical Research of the American Medical Association for circulation *among* the public. Twenty-five of these pamphlets are *now ready*, *taking* up the relations of animal experimentation to ethics, *diagnosis*, *cancer*, *vaccination*, *the live* stock industry, tuberculosis, *typhoid*, dysentery, plague, rabies, surgery, internal secretions, *the circulation of the* blood, protozoan tropical diseases, etc.

[1] See letter in *Hearing on a Vivisection Bill* (S. 34), Senate Committee on District of *Columbia*, Washington, 1900, p. 99.

[2] Minutes of Evidence, Royal Commission on Vivisection, 1907, *Question 6833*.

The opposite moral attitude, that taken by the investigators, was expressed by the second British commission. Basing their judgment on the "average moral sense of Christian communities," which is "not offended by the sacrifice of lower animals for the food, clothing, adornment and, within limits, the sport of man," they concluded that properly conducted experiments on animals "are morally justifiable and should not be prohibited by legislation."

Although most antivivisectionists are ultimate abolitionists, and although some among them vigorously denounce merely restrictive legislation as a wicked compromise, which will seriously endanger the securing of their real aim, yet others among them have been quite ready to obtain any legislation whatever to which they might point as a mark of progress. Any sort of specious argument may be expected, when some legislation, even the most trivial and insignificant, is all that is wanted at first. Thus antivivisectionists have declared that their prime object is to stop the abuse of animals by ill-trained physicians, or by raw medical students, operating in private rooms, and that expert investigators and physicians interested in the promotion of medical research ought to be therefore strong supporters of their endeavors. Before this argument is accepted a review of the attempts to obtain restrictive legislation in this country will be instructive.

The most energetic and persistent efforts to have restrictive laws enacted have been made in Massachusetts, New York, and Pennsylvania. I am best acquainted with the agitation in Massachusetts. Seventeen years ago there was presented to the Massachusetts legislature a relatively drastic bill aimed at the limitation and supervision of the experimental use of animals. At the first hearing the crowd was so great that the largest committee room was not large enough, and the meeting had to be adjourned to the old hall of representatives. The petitioners for legislation were ably represented by counsel. The remonstrants appeared as laboratory workers and practitioners of medicine and surgery to testify to what they knew and give reasons for objecting to the proposed bill. After several hearings the committee, convinced of the needlessness of any such bill, voted unanimously that the petitioners be given "leave to withdraw." Then came the sequence of "milder" bills. Attempts with these "milder" bills were made almost every year for the next decade.

During all these later years the laboratory workers conducted their own case; the petitioners were represented by able counsel; invariably the committee refused to report the bill. There was never any popular demand for legislation; interest was kept alive solely by the efforts and money of a few agitators. The number of petitioners attending the hearings gradually dwindled until, at the last, only their hired lawyer and a few elderly ladies constituted the remnant of the great crowd that came in 1896. Every victory for freedom of research made another victory easier, and just because committees again and again had found no reason to enact restrictive legislation, and because at each successive attempt the petitioners could advance no new arguments, it became always more possible to point to the fate of previous bills as a precedent to follow. In other words, the efforts of the antivivisectionists became classified in the legislative mind as chronic and unjustifiable.

In the course of these repeated hearings the most effective way of presenting the medical and biologic view was gradually developed. It consisted, towards the last, of the testimony of representatives of the educational institutions of the state, the colleges, medical schools and separate biologic laboratories, representatives of the several branches of the medical sciences, representatives of the state and city boards of health, representatives of the cattle bureau, representatives of hospitals, and prominent physicians and surgeons—in short, persons who knew thoroughly every interest that would be seriously affected by limitation of the use of animals for instruction and research. One person was selected to speak for each of the interests concerned and he was limited to ten minutes. Thus the objections to the bill were described to the committee in a series of brief, pointed speeches, so diverse in style and personality as to hold close attention. At the end the leader of the remonstrants summed up the general objections to the proposed bill and answered any arguments that previous speakers might have left untouched.

The history of the agitation in Massachusetts has been repeated in New York. The money of a few individuals has purchased the services of lawyers and a public speaker; and with this subsidized enthusiasm and with the aid of a newspaper made hostile because its disreputable advertising was stopped by the action of a local medical society, the small group of antivivisectionists began their usual tactics. Through pamphlets, leaflets, exhibits, special articles and lectures they thoroughly misrepresented the methods and the results of animal experimentation, until they obtained a considerable following of kind-hearted people who believed that the atrocities they described were actually being perpetrated within the confines of the state. Along with this misleading effort to rouse a detestation of the methods of medical research, the antivivisectionists tried to secure laws of a hostile character. Numerous fruitless attempts were made to enact restrictive bills, each less drastic and more plausible than its predecessors, and then, with steadily diminishing interest at the hearings they took a final step downward in their demands and are now asking for a commission of inquiry. This is the mildest and apparently the most reasonable request that they have made. Who is not appealed to by the call for an "open door"? But this request is supported by the same persons who formerly urged outright antivivisection bills and by some who, in their publications, advocate that animal experimentation be abolished. The present effort, therefore, is merely another attempt to get legislation started in one state so that it may be an example to others. There is no general demand for such investigation; it is assumed in the call for an "open door" that the doors of laboratories are now shut against experienced persons (which is untrue); and the conduct of the investigation is placed not with judicially-minded persons, but with persons some of whom are committed in advance to an antagonistic attitude. Again the British experience may properly be cited to show the futility of attempting to secure any respite from abuse and vituperation by bending to the wishes of persons who are intent on doing their utmost to harass and impede the progress of medicine.

Experience in Massachusetts, New York and elsewhere has not only revealed the main provisions likely to be found in antivivisection bills, but has also brought forward the chief objections to these provisions. A brief summary of these points will be instructive:

1. *Experimentation is restricted to registered buildings.* This is impracticable, in the case of medical emergencies in country places, and would entail difficulties in experiments on diseases of animals used on farms, and of game animals, and hence would be inimical to the farmers and sportsmen of a state. In Great Britain portions of grouse-moors have been necessary for the study of "grouse disease." And Pasteur's proof of immunization against anthrax was made in field operations remote from his laboratory in Paris.

2. *Experimentation is restricted to the purpose of discovering new facts useful in saving or prolonging life or alleviating suffering.* This provision prohibits the use of animals (on the way to death in anesthesia) for the acquirement of technical skill. Thus persons training to practice surgery, for example, would be forced strictly to obtain their first experience by operating (or experimenting!) on human beings instead of the lower animals.

Furthermore, the provision abolishes the use of animals for teaching and demonstrating the methods and facts of physiology, and of all the other experimental biologic sciences, however free from pain these uses are. And, as is generally recognized, to learn to judge the functions of the body by studying inactive structure alone would be like learning to take the responsibilities of an engineer by examining an idle locomotive.

3. *The animal experimented on must be under a general anesthetic.* Often quite as effective anesthesia is produced by a local as by a general anesthetic and, furthermore, much less discomfort is likely to attend local anesthesia and there is no distress in recovering from it. Restricting experimentation to animals under general anesthesia, furthermore, prevents any attempt at finding new anesthetics, and thus either definitely limits mankind to those now employed, or requires the first tests to be made on human beings.

4. *Animals must be killed before recovering from anesthesia.* This process stops absolutely all work in experimental surgery, and in the application of surgical methods in physiology and pathology. If this condition had been enforced during the past fifteen years, some of the most valuable advances in medicine would have been rendered wholly impossible.

5. *Every experimenter must make a report in writing, at certain times each year, stating the nature and results of his studies.* The compulsory reports of all experiments would probably have as their only practical result ignorant prosecutions, followed by acquittal. Nothing is more evident in antivivisection literature than the inability of persons equipped mainly with ignorance and prejudice to read with understanding the technical reports of experts. Misunderstanding necessarily ensues. It is against sound public policy to discourage legitimate experimental work by the prospect of such prosecutions.

Still another objection to compulsory reports is the danger to the community which might result from the premature publication of insufficiently tried methods of treating disease. Koch's forced premature publication of the action of tuberculin may serve as an instance, but more recent instances are not lacking. Cruelly false hopes, bitter disappointments, the spending of large sums uselessly in traveling far to seek relief from disease or to avoid death—such are the evil results that may flow from compulsory publication.

6. *Laboratories in which animal experimentation is being performed shall be open to inspection by authorized agents.* (Sometimes the bill specifies that these agents shall represent humane societies.) This provision has always met strong opposition—opposition which must be clearly defined, because it is usually taken by the antivivisectionists as a confession of fear of detection in cruel deeds. To this innuendo, however, as Curtis has said, "Common sense calmly replies that no legitimate work in any calling can go on effectively in the presence of unbidden and ill-informed persons, suspicious if not hostile."

The appointment of persons whose qualifications to inspect laboratories are not stated is unjustifiable. To inspect banks experts in banking are appointed; to inspect laboratories experts in experimentation should be specified. The grossest errors of judgment have been made by ignorant persons, incapable, for example, of distinguishing between reflex movements of brainless animals and purposive acts. But the petitioners for restrictive legislation will not admit that experts in experimentation are fit persons to trust.

Even when inspectors are competent, as British experience has shown, they either become suspected of being in league with the experimenters, because they so rarely report abuses, or they are said not to be present in the laboratories when the atrocities are being perpetrated. Not content with occasional inspection, therefore, the British antivivisectionists are now advocating constant attendance of inspectors in laboratories so that nothing may escape scrutiny. The absurdity of this scheme is its strongest condemnation. Evidently no amount of inspection is going to satisfy the agitators unless their preconceptions are to be substantiated.

Besides the foregoing special objections to bills which are hostile to operations on animals, there are certain general objections:

1. *Restrictive legislation is not needed.* The welfare of the animals used in experimentation is already safeguarded by voluntarily imposed regulations providing for their bodily comfort, for their use in important purposes, and for their freedom from pain. The regulations, drawn up by the Bureau for the Protection of Medical Research of the American Medical Association, have been adopted by corporate vote in practically every medical school in the country in which research is being conducted. Mr. Henry Bergh, of the American Society for the Prevention of Cruelty to Animals, has referred to these as "the most exemplary, humane and beneficent regulations governing the practice of vivisection to meet the requirements of humanity." Only the director of the laboratory can make exceptions to the rules and he can do so only in the rare case in which anesthesia or death of the animal would defeat the object of the experiments.[3]

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[3] See Cannon, W. B.: Medical Control of Vivisection, Defense of Research Pamphlet, xvi, 1910.

The general adoption of the regulations in schools with active laboratories renders further legislation unnecessary. Burdening the statute books with unnecessary legislation is admittedly reprehensible.

2. *Such restrictive legislation is indefensible class legislation.* It is the function of the state to enact general laws against cruelty to animals; the proposed legislation places scientific men under peculiar surveillance and limitation. This is unwarrantable. The general laws regarding cruelty are adequate to cover cases of wanton infliction of pain, no matter by whom inflicted. A few years ago a professor in a veterinary school was convicted of cruelty on this basis, whether justly or not is not now pertinent; the fact is that the existing general law was adequate. Similarly two students of "optometry," in New York, were convicted under the general law providing for the punishment of causing in animals "unjustifiable physical pain, suffering or death." It is proper, therefore, to demand that the general laws against cruelty be applied before special legislation is framed.

3. *Such restrictive legislation is merely initial—an entering wedge—advocated with the purpose of advocating later more stringent law.* In the *Journal of Zoophily* (March, 1909) is this statement:

> We believe that in the course of time we shall have total abolition of vivisection, but as we cannot get it now, we think we may be justified in asking for something that will help the poor animals a little. Though we may not get abolition at once, we shall eventually.

This is the attitude taken by the moving spirits among the opponents of animal experimentation everywhere. As already shown, Great Britain has had a restrictive law, with registration of buildings, reports of experiments, and inspection, for thirty-six years. Yet there is no country in which agitation for abolition of animal experimentation is more active. The passage of the proposed legislation would therefore not allay agitation.

No other civilized country has followed Great Britain's lead; no British dependency has done as the mother country has done. As Sir Michael Foster declared, with reference to the British Act, "England offers in this respect at least an example to be shunned alike by her offspring and by her fellows."

In conclusion I wish to urge that everything possible be done to enlighten the intelligent public as to the great practical results of animal experimentation, the important problems that remain to be solved, the ideals of the investigators who are trying to solve these problems, and the essential humanity of their methods. The pamphlets published by the Bureau for the Protection of Medical Research of the American Medical Association, and the leaflets issued by the Committee on Experimental Medicine of the New York State Medical Society present an overwhelming array of facts highly serviceable in such education. Physicians who use in daily practice the results of laboratory investigations can do nothing more useful to medical progress than combating antivivisection arguments and explaining the dangers of compromise.

And I also wish to urge further that sharp watch be kept on attempts to secure legislation that now or in the future would hamper, or in any way interfere with, the efforts of men engaged in medical research. Our opponents will try to get a foothold in one state or another; and when they have done so they will point to that accomplishment as the result of their own prowess and as evidence of humanity and enlightenment of the people. And on the basis of action in one state they will begin work in others. For the welfare of mankind we must not permit their views to prevail.

Welch has summed up very precisely the reasons for opposing the efforts of the antivivisectionists. "The fundamental objection," he declared, "to the various legislative proposals to regulate animal experimentation by a system of licenses, of inspections, of specifications as to the purposes and conduct of the experiments, is that the enactment of such statutes would take the control of a matter of the highest importance to human welfare, and one requiring special knowledge and training and skill, out of the hands of the experts, who possess these qualifications, and would place it in charge of those who have not the requisite technical knowledge and experience. Not those who know, but those who do not know, would be given a discretion which might prove disastrous to the future of scientific medicine. This is a monstrously wrong principle to embody in legislation. Science has waged a long warfare through the centuries for freedom of investigation. The last of its battles is being waged to-day for freedom of experimental research in medicine. While I do not doubt the issue of this battle, I conceive it to be the duty of the public and of the press to support the cause of freedom in this contest, which is likewise that of true humanity."

Further information regarding antivivisection agitation, and regarding the value of animal experimentation to mankind, can be obtained by addressing the Bureau for the Protection of Medical Research of the American Medical Association, 535 Dearborn Avenue, Chicago, or the Committee on Experimental Medicine, New York State Medical Society, 17 West Forty-Third Street, New York City.

VERTIGO

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From the subjective *functional standpoint*, the disturbance of bodily equilibrium characteristic of vertigo may be caused by two conditions. First, integrity of orientation in space is dependent on the harmonious interrelation of the different impressions coming to the brain from the end-organs concerned with the sense of spatial orientation. Hence this sense may be disturbed by lack of harmony in these impressions. Second, paralysis of certain of the muscles of the eye may produce vertigo, because under such conditions the images do not fall in corresponding parts of the retinae, and are as a result projected into different points in space by the two eyes, giving a sense of disorientation. Vertigo is always a symptom only and, while it requires relief, its diagnostic significance is of the highest importance. It is a good rule to make a careful differential diagnosis in every case.

The indications in any case of vertigo are (1) to diagnosticate and relieve or remove the underlying or essential cause of the condition, and (2) when this cause is not quickly evident, or the vertigo is reflex in origin, to institute measures directed toward the relief of the immediate dizziness and concomitant symptoms.

DIAGNOSTIC SIGNIFICANCE OF VERTIGO

The first indication — to determine the diagnostic significance of vertigo — is of the highest importance. To reach a sound judgment as to the essential cause of a vertigo it is necessary to keep in mind a clear classification of the conditions which may produce it, and by a process of elimination and association with other cardinal symptoms, arrive at the underlying cause. It is *important* clinically to consider first the approximate age of the patient and then to ask what type of vertigo is most apt to occur in that period. Dana[1] has given an excellent classification of the different forms of vertigo, which needs but to be arranged in age groups to be of the highest clinical use.

1. *Relation of Age to Cause of Vertigo.*—In the vertigoes of childhood, mechanical causes such as swinging play a prominent rôle. In any case of more than transient dizziness in a child which cannot be definitely assigned to mechanical causes, the first consideration is the ear. Most commonly the condition is due to a middle-ear infection which follows the acute infectious fevers, as measles, diphtheria, scarlatina, or pneumonia, and in which the labyrinth is involved. It must be remembered also that anemia and malnutrition may be responsible for the vertigo or it may be associated with *functional* disturbances of the heart. Again the vertigo of cerebral abscess and cerebellar tumor will be seen occasionally.

In early adult and middle life the vertigo can be traced most often to a vascular or reflex source, depending for instance on some disorder of the liver, stomach, intestine or female genital organs, or to arterial or myocardial changes. In this period ocular changes are fairly frequent, and of course mechanical and aural vertigoes are found. With increasing age the vascular and certain types of reflex vertigoes become more common. It is well to bear in mind this relation of age to the cause of a vertigo, in turning to a more detailed review of the various types.

2. *Vertigo Caused by Reflex Irritation.*—The more common forms of vertigo fall under Dana's group caused by reflex irritation, as from the stomach, liver, intestine, pelvis, etc. In treating these a sharp purgative may be followed by some such prescription as the following:

℞	Tincture of nux vomica	5 parts
	Tincture of cannabis indica	8 parts
	Sodium salicylate	10 parts
	Aromatic elixir, enough to make	60 parts

Make a solution to be taken a teaspoonful three times a day after meals.

With acholic stools, incipient jaundice, and hepatic torpor, a stomachic and hepatic stimulant may be combined, as in the following:

		gm. or c.c.	
℞	Ext. nucis vomicae	|150	gr. ii
	Oleo res. capsici	|300	gr. iv
	Fellis bovis purif.........	4|800	ʒ i
	Res. podophylli	|210	gr. iii

Fiat massa et divide in pilulas xx.
Sig.: Take one pill after each meal.

3. *Vertigoes of Neurotic Origin.*—Somewhat similar to certain reflex vertigoes are those of a neurotic origin. Vertigo is a common symptom in neurasthenia and in various degrees of nervous and emotional stress; it may almost reach the dignity of a psychosis in these cases. According to Barany,[2] the vertigo of neurasthenia is characterized by a nystagmus with irregular movements of the eyes, never by the quick motion and slow return of labyrinthine vertigo. Neurasthenic vertigo is apparently independent of any labyrinthine disease. *Palliative treatment* here is secondary to a thorough and long-continued attack on the fundamental neurotic condition.

4. *Vertigo due to Vascular Conditions.*—Vertigo may be due to purely vascular conditions, as in the congestion or ischemia accompanying cardiac disease, arteriosclerosis, anemia or aneurysm especially of the thoracic aorta, all of which seriously affect the intracranial circulation. Obviously the indications here are to remedy the anemia, improve the efficiency of the heart, and, so far as possible, alleviate the effects of arterial degeneration. Treatment must therefore be directed to these cardiovascular conditions, keeping in mind that the vertigo is merely a symptom. Under this classification also fall the vertigoes due to toxins in the blood as in alcoholism and chronic nephritis. Here again the relief of the vertigo is incidental to the relief of the toxemia. Such conditions require free catharsis and diuresis, and perhaps no better diuretic can be used than theobromin-sodiosalicylate in 10-grain doses three times a day.

5. *Vertigoes of the Auditory Type.*—An important group of vertigoes with which the general practitioner is too apt to be unfamiliar comprises those of the auditory type. The importance of this group rests in the fact that here vertigo may signify serious and often dangerous organic disease. Auditory vertigo is due to some *disorder of that branch of the eighth nerve concerned* with space sensation. Many minor forms arise from congestion or ischemia of the middle-ear. The auditory nerve has two divisions. The first, the nerve of hearing, leads from the cochlea to the medulla and thence finally to the first and second convolutions of the temporosphenoidal lobes. The second branch leads from the semicircular canals to the middle lobe of the cerebellum, and thence forward to the cerebrum. Injury to this second branch in any part of its course causes a disturbance of space sensation and vertigo. Naturally the most common point of injury or stimulation of this nerve is in its end-organ in the labyrinth. A change of intralabyrinthine pressure, such as so often follows a quick and complete closure of the eustachian tubes, can produce such stimulation of the vestibular nerve. The air in the tympanic cavity is soon absorbed and the drum-membrane is pressed inward. Sudden deafness with tinnitus, stuffiness and dizziness, of a severity which may disturb the equilibrium, are the result. It is a mechanically induced condition, and opening the eustachian tubes with a catheter or forcing air through them with a Politzer bag or by forced expiration with the nostrils closed gives relief.

In this connection it is to be remembered that the ordinary mechanical vertigo due to a sudden difference in pressure between the external air and that in the cavity of the middle ear, such as occurs in changes of altitude, working under high air-pressure, etc., rarely requires treatment. Gradual accommodation to the new pressure and the act of swallowing usually suffice to equalize the air densities. In cases of inflammatory or other occlusion of the eustachian tubes, catheterization or inflation with a Politzer bag may be repeatedly necessary unless the tubes become normally patulous.

Much more serious is the true labyrinthe vertigo due to organic disease. Kerrison[3] classifies this type as the vertigo of vestibular irritation and the vertigo of vestibular paralysis. The irritative form he assigns to one of two causes. It may follow a comparatively mild labyrinthine inflammation or congestion, which irritates the end-organ of the vestibular nerve without destroying its function, or it may result from lesions which suddenly destroy or at least markedly decrease the function of these end-organs. This last process is equivalent to stimulation of the healthy labyrinth. The two labyrinths in health balance each other and act as a single organ. But if the function of one suddenly ceases, the unbalanced and excessive activity of the other for a time produces the symptoms of vestibular irritation, among which is vertigo.

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[1] Dana, C. L.: Vertigo, Internat. Clin., Series 2, iv, 115.

[2] Barany, Robert: Physiologie und Pathologie des Bogengangs Apparates beim Menschen, 1907, Leipsic and Vienna.

[3] Kerrison, P. D.: Labyrinthine Vertigo, New York State Jour. Med., Aug. 12, 1912, p. 418.

Kerrison classifies the symptoms of vestibular vertigo as follows: Subjectively, it is rotary in character, external objects seeming to revolve around the patient. With closed eyes the patient feels that he himself is rotating rapidly. Objectively, the vertigo is invariably accompanied by vestibular nystagmus, in which there is a quick movement of the eye in one direction, and a slow return in the opposite direction. Voluntary rotation of the eye in the direction of the quick movement increases both the nystagmus and the vertigo. Barany's rule is to the effect that a vertigo not accompanied by a nystagmus and not influenced by the position of the eyes is not of vestibular origin.

The patient with vestibular vertigo tends to sway or fall in the direction opposite to the quick movement of the nystagmus and, therefore, will fall in different directions according to which way the head is turned. Kerrison points out that a vertigo accompanied by a nystagmus just like that here described, but in which the patient sways or falls regularly in one direction, no matter how the head is turned, and in which the aural caloric reactions are normal, is characteristic of certain cases of cerebellar abscess and is never the result of a lesion limited to the labyrinth. Seldom is operative interference necessary in these cases. Absolute rest and quiet in bed are the prime desiderata in all such cases.

The second or paralytic type of vestibular vertigo is called by Kerrison the vertigo of defective orientation. The patient who has passed the stage of vestibular irritation may be at perfect rest as he lies in bed, but any change of position, as for instance sitting up or rising, results in a sudden and transient vertigo. This recurs with each change of position to which the patient has not reaccustomed himself. To cure the condition it is only necessary that progressive graded movements be used to reeducate the sense of spatial orientation.

The term "Menière's disease" includes various forms of auditory vertigo associated with tinnitus and nausea, and always due to organic labyrinthine disease. Charcot's plan of giving quinin in increasing doses to cinchonism is recommended in this type. Sodium salicylate has been substituted for the quinin with reputed good effect. The multiplicity of drugs recommended is the best commentary on the difficulty of managing all cases alike.

6. *Ocular Vertigoes.*—These arise from imperfect refraction or from a disorder of the ocular muscles. They are much less common than aural and reflex vertigoes. Correction of the astigmatism or asthenopia gives relief.

There are various diseases of which vertigo is a symptom but in which no occasion arises for singling it out from other symptoms for special treatment. The so-called mechanical vertigoes, such as are associated with sea-sickness, car-sickness, and the rapid motion of an elevator or swing, are easily reduced to their component aural and ocular elements.

TREATMENT WHEN CAUSE IS NOT APPARENT

When it is not soon apparent what the underlying cause of a vertigo may be, or when a reflex vertigo has been diagnosed, treatment should be instituted to relieve the immediate dizziness and its accompanying symptoms. In these cases a vigorous purgative should be given at once, either a teaspoonful of sodium phosphate or twice the quantity of sodii phosphas effervescens U. S. P. Instead of this, 1/10 grain doses of calomel may be given at ten-minute intervals until a grain or more has been taken. The patient should lie down. Amyl nitrite, weak ammonia, smelling-salts or some other volatile stimulant may be of immediate service. For internal administration probably sodium bromid in twenty-grain doses three times daily is most satisfactory. It is well to apply a mustard paper or plaster to the back of the neck, and the extremities must be kept warm by rubbing, and counter-irritation with a weak mustard bath or hot water bags outside of blankets. Occasionally counter-irritation of the mastoid region with a cautery is useful.

SUMMARY

To repeat, vertigo is a symptom. Ordinarily its treatment is bound up with the treatment of its cause, and while engaged in relieving it the physician must not forget its diagnostic significance.

358 West Twenty-Ninth Street.

A NEW DIFFERENTIAL LEUKOCYTE COUNT CHART

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In the earlier days of hematology it was supposed that the leukocyte count was a quite reliable guide to the extent, progress and severity of various infections. It was shortly recognized, however, that other factors entered into the problem and that the degree of leukocytosis was more of an index of the amount of resistance, the fighting force possessed by the body, than of the virulence of the infection or of the actual progress of the combat between the invading bacteria and the natural resisting powers of the organism. Thus a normal leukocyte count or slight leukocytosis might mean little or no infection with no need of great resisting force or, on the contrary, it might be indicative of a very severe infection by which the body was overwhelmed without even a chance of combating it.

Some other additional index was needed to complement this early one. Such an index was found in the differential count, in which the percentage of the neutrophils or polynuclears was determined. At present we say in a somewhat loose way that the degree of leukocytosis is indicative of the amount of resistance put forth by the body and the percentage of neutrophils an indication of the virulence of the infection. Accordingly when we make a leukocyte and a differential count we can obtain information concerning both opposing forces.

Determination of these two factors and their deviation from normal is often of vital importance in adequately studying our cases. Unfortunately this normal is not by any means a fixed factor, the normal neutrophil percentage varying much with the degree of leukocytosis. This latter fact has been noted by all hematologists and has been well brought forward by Gibson who, in an article a few years ago, suggested a chart for tabular representation. According to that, the normal leukocyte count is placed at 10,000 and the normal neutrophil percentage at 75. Then, in a general way, he says the neutrophilic percentage should increase one for every thousand extra leukocytes if the proper proportions are maintained. Thus if the leukocyte count is 20,000 the normal neutrophil percentage should be 85: if it is 30,000 the neutrophil percentage should be 95 and so on.

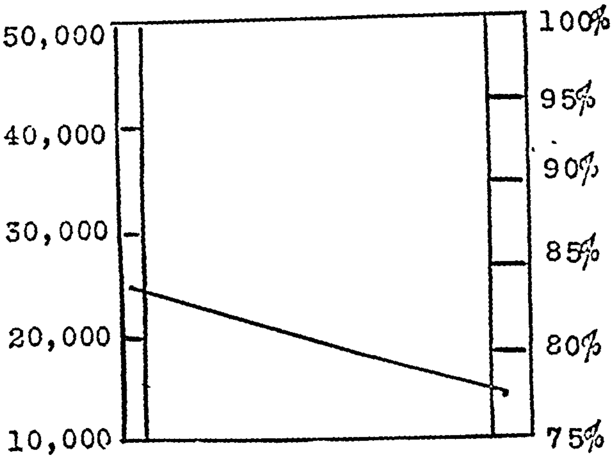

Chart 1.—Line descending—indications favorable. A mild case of infection with good resistance.

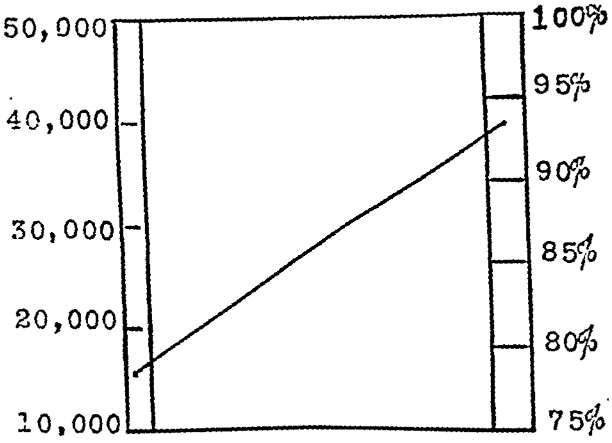

Chart 2.—Line ascending: indications unfavorable. A severe infection with rather poor resistance.

If the neutrophils are present in greater abundance the prognosis is less satisfactory than if they are less so, and the greater the divergence the more serious becomes the prognosis. A chart was devised whereby the leukocyte count was placed on the left side and the corresponding neutrophil count on a level on the opposite one. The actual count in a given case was then plotted and the two points united by a straight line. If this line was horizontal or descending the prognosis was good, if ascending, particularly sharply so, it was more serious. The ideas advanced by Gibson were certainly valuable, as they gave a definite plan on which to work, rather than a previous rather vague impression of the same facts. I have tested them extensively during the last few years and have found them very useful. Certain modifications have seemed advisable and have been used with satisfaction for a considerable time. In order to explain them better the accompanying charts have been prepared. In Gibson's chart the weakness lies in the fact, it seems to me, that if the leukocyte count goes above 35,000 the neutrophils are above 100 per cent. The preferable way appeared to be to take out the extreme limits of the leukocyte count and of the differential count and then to divide the intervening spaces proportionately. This has been done in Charts 1 and 2.

It may be assumed that I am not speaking of any count of less than 10,000 as a leukocytosis, also that in adults the leukocyte count seldom exceeds 50,000. For a count of 10,000 a neutrophil percentage of 75 will be admitted to be about normal in adults. Equal spaces are accordingly given to each and the distances are divided proportionately. The leukocyte count is marked on the left, the neutrophil percentage on the right and the two points are united by a straight line. Just as with Gibson's original chart, a level or a descending line warrants decreasing anxiety while an ascending one serves as a danger-signal. This chart for single counts proves satisfactory but very frequently one desires to watch the progress of the disease from day to day and from this less satisfaction is noted. In such cases Chart 3 is employed. Here the leukocyte count is indicated by a solid line, the neutrophil percentage by a broken one, both charted in the same vertical plane. When the solid line is above the broken one or at least on a level with it, the indications are that all is progressing well in the combat. If it falls below the broken one, however, it is equivalent to a call from Nature for more assistance, as the invaders are prevailing. A further modification of this chart is its transfer to a temperature chart in order to have in tabular form

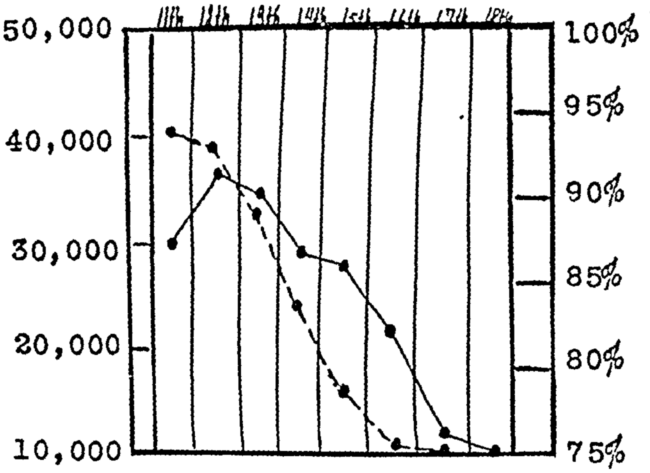

Chart 3.—Indications unfavorable on the 11th but gradually improving thereafter. A septic arm with operation and recovery.

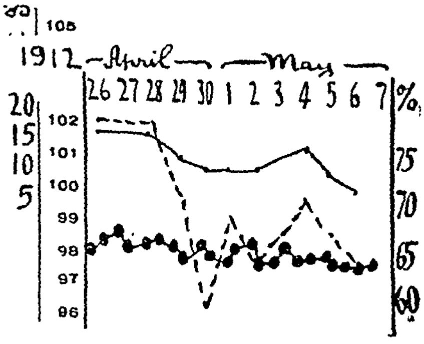

Chart 4.—Line with heavy dots, temperature curve; line with light dots, leukocyte curve; line composed of dashes, neutrophil curve. The first column of figures on the left shows leukocytes in thousands; in the second column shows temperatures.

the daily variations in all lines possible as shown in Chart 4.

The use of these charts has proved very satisfactory to me both from the standpoint of diagnosis and from that of prognosis. It is not maintained that they are by any means perfect; they will undoubtedly be improved as time advances. They are, however, the best means of tabulating these figures within my knowledge, and are here given publicity in the hope that they may be of some benefit to others.

80 East Concord Street.

LARYNGEAL TUBERCULOSIS*

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It is a pleasing commentary on the medical profession that however great the obstacles which confront it, and however baffling the solution of difficult problems, its efforts remain persistent. Were it not for this untiring patience many a discovery which has brought credit on our profession and inestimable good to humanity would still be unknown. It is no wonder, therefore, that tuberculosis is a constant source of interest and study, engaging the attention of scientists, practitioners and laymen with a grip that no amount of discouragement can lessen; nor is it remarkable that one of the complications of this disease which adds so much to the suffering of the sick should be no less interesting to the general practitioner than to the specialist, even though its treatment has been largely relegated to the sphere of the laryngologist.

Despite this union of general and special interest it must be admitted that the text-books on general medicine are prone to ignore many of the most important questions relating to the laryngeal complication of tuberculosis, passing too lightly over the remarkable change in our understanding of this disease, while special text-books dealing with diseases of the upper air-passages are equally negligent in overlooking the close relation between the general or pulmonary disease and its most frequent complication.

It must be borne in mind that the internist and the laryngologist are so closely related that the questions of diagnosis, prognosis and treatment depend on their combined efforts. The laryngologist becomes a valuable guide especially in early diagnosis and in accurate prognosis, and were he to examine the larynx of every patient with tuberculosis, his usefulness would doubtless be increased by his detection of tuberculous infiltration which passes unnoticed until the patient is beyond hope.

The importance of such examination is clearly reflected in the action taken at the last annual meeting of the Association of German Laryngologists,[1] in which it was urged that in all hospitals devoted to the combating of tuberculosis, the condition of the upper air-passages should receive special attention. This thought is further emphasized in my mind by a practical experience of many years in a section of the country to which tuberculous patients have looked with a hope born of such despair as only the verdict of the family doctor's diagnosis can inspire. Innumerable patients have been ordered away from home in whom the laryngeal involvement pointed to a hopeless future, while quite as many have been deprived of the benefits of change of climate because, in the absence of proper laryngeal examination, an early diagnosis was not established.

FREQUENCY

It is doubtful whether any of us realize the frequency with which this disease occurs, and it is only since we have learned to recognize early manifestations that we have fully appreciated its importance. Killian[2], in one of the latest articles on laryngeal tuberculosis, speaks of its latent form and states that in order not to be surprised we must look with suspicion on the larynx of every tuberculous patient having bacillus-laden sputum. Comparing statistics of twenty years ago with those of to-day we can hardly believe that they are acurate. It was generally conceded then that 30 per cent. of all cases of tuberculosis were laryngeal. Today, St. Clair Thomson[3] states that post-mortem findings show laryngeal involvement in 50 per cent. of those who die from tuberculosis and 72 per cent. as the frequency of its occurrence in third-stage cases.

It is unfair, however, to conclude that there has been an actual increase in the frequency of this affection. The higher percentage must be attributed to more careful examination and to our ability to recognize the lesion in its earliest stages. Were statistics available, I believe it could be shown that the apparent increase in frequency is confined to early-stage cases and that fewer late-stage cases exist than formerly. My own experience and that of several of my confrères bear out this statement. Its explanation is simple enough. Tuberculosis in general as well as that with laryngeal involvement is not only recognized earlier than formerly, but its treatment is resulting in more cures, more cases of arrest and consequently fewer late complications. In this connection it is interesting to read the statistics of the Japanese investigators, Harada and Yamoguchi[4]. These observers found tuberculosis of the upper air-passages in 16 per cent. of 42,431 throat and nose patients and in 6 per cent. of the necropsies of 2,162 individuals who died of tuberculosis. It is generally understood that tuberculosis is not uncommon among the Japanese.

Tuberculosis of the larynx in children, especially in very young children, is comparatively rare. Its frequency increases after the age of 12. Bonney of Denver in a personal communication reports a series of sixty-eight cases of pulmonary tuberculosis in children, in twenty of which there was laryngeal involvement. The average age of the twenty was approximately 15 years, the youngest child being 10 years of age. Nobécourt and Tixier[5] report the case of a child aged 3½ months in whom laryngeal ulceration, tuberculous in character, was disclosed post mortem, while Collet[6] found only four cases of tuberculosis in a thousand children of all ages.

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* Read at the regular meeting of the St. Louis Medical Society, Feb. 22, 1913.

[1] Campaign Against Tuberculosis of the Upper Air-Passages, Berlin Letter, The Journal A. M. A., Jan. 18, 1913, p. 221.

[2] Killian, G.: Laryngeal Tuberculosis, Deutsch. med. Wchnschr., May 28, 1912.

[3] Thomson, St. Clair: Practitioner, London, January, 1913, p. 243.

[4] Harada and Yamoguchi: Centralbl. f. Laryngol. u. Rhinol., Dec. 12, 1912, p. 666.

[5] Nobécourt and Tixier: Cited in The Practical Medicine Series, 1911, p. 326.

[6] Collet, M.: Laryngeal Tuberculosis in Children, Lyon méd., Oct. 27, 1912, p. 677.

It is still believed by many that laryngeal tuberculosis is usually associated with advanced pulmonary tuberculosis (Osler[7]), and that the laryngeal lesion is only a local expression of the pulmonary involvement. *Klebs*[8] states that the earliest tuberculous manifestation is not usually coincident with incipient pulmonary lesions but with moderately advanced ones. Were every case in which the suspicion of tuberculous disease exists examined with sufficient care, laryngeal signs that are now overlooked would frequently be detected.

EARLY MANIFESTATIONS AND DIAGNOSIS

Among the earliest signs we find slight intermittent hoarseness. This disturbance in the voice is due to one of several causes. It may be a simple weakness in the motility of the vocal bands due to anemia which, though a general manifestation of the general infection, is more prominent in the mucous membrane of the pharynx and larynx. This local expression of a general anemia is one of the signs that has always been looked on as extremely suggestive. It is followed in many early cases by a unilateral lesion associated with increased lameness on that side with or without slight redness and moderate swelling. The unilateral manifestation of early laryngeal tuberculosis is one of its most distinctive characteristics. It has been found that the lesion, in the majority of instances, is on the same side as the lung affection. Krieg[9] asserts that this is true in 92 per cent. of the cases, while Shaeffer[10] found early unilateral paresis on the same side as the lung lesion in 67 per cent. of the cases.

The explanation of this is not difficult, although there are numerous theories, any one of which is tenable. For instance, Jouty[11] believes that owing to the tuberculous lesion there is a trophic inferiority of the one side as compared with the other existing before it is possible to discover any laryngeal or pulmonary lesion. It is a recognized fact that the apex of the lung is the earliest site involved, and Cornet[12] states that the unilateral lesion in the larynx may be due to pressure of early apical trouble on the recurrent laryngeal nerve, or to enlarged bronchial lymph-nodes on the same side. Lake[13] believes the paresis to be due to a tuberculous myositis. Given a unilateral debility from nerve and muscular weakness, it is easy to understand the development of subsequent typical tuberculous changes on one side, this side being unable to cleanse itself of tubercle-laden sputum.

It is conceded that one of the most frequent of the recognized modes of infection is that by which a vulnerable mucous membrane takes on local infection. In certain cases of tuberculosis of the mouth, for instance, the local lesion can be directly traced to traumatism such as a rough tooth or a tooth extracted. The same vulnerability exists in a large majority of all tuberculous throats because of the existence of more or less chronic catarrhal pharyngitis and laryngitis. The mucous membrane in these cases loses much of its resistance to infection, and this resistance is still further lowered by the traumatism produced by every act of coughing. Coughing, however, is a salutary effort on the part of Nature to clear the laryngeal mucous membrane of accumulated secretions. Given a larynx one side of which is weak from whatever cause, bacilli-laden sputum remains more constantly in contact with this side than with the other. The sputal theory of unequal localization is therefore easily established.

A suggestive early symptom is excessive sensitiveness and irritability of the pharynx. Many persons resist by an act of retching even the use of the tongue-depressor, to say nothing of the laryngoscopic mirror. The irritability is markedly increased in a large proportion of tuberculous cases and, if it exists in connection with pallor, slight fever and hacking cough, it should be seriously considered.

Pain as a symptom has uncertain significance. It may mean a great deal and it may mean nothing. Being a purely subjective manifestation, its character necessarily differs according to personal equation. It is present as a rule in ulcerations, although these may exist without pain. Sensations described as discomfort by some and actual pain by others may be present without ulceration and without tuberculous lesions of any description. The common condition of dryness due to defective secretion as seen in the dry skin and the dry hair of the tuberculous patient has its analogue in a dryness of the mucous membrane of the pharynx and larynx which induces painful sensations more or less constant but particularly marked at night.

During the act of swallowing this sensation may be materially exaggerated, but an important distinctive point is found in the fact that the pain is most marked during an attempt at swallowing at other than the time of taking food. It is also complained of during the first part of the meal; but instead of being increased by the taking of food it is relieved thereby, completely disappearing in a few moments.

The onset of tubercle deposit in the submucous tissue, even without definite tuberculous ulceration, is frequently marked by early pain, and shows itself on physical examination as a circumscribed pale edematous swelling with small grayish or yellowish pin-point elevations distinctly appearing beneath the mucosa, and embedded in it. The pain in this instance is not relieved by the act of swallowing, although it may be diminished, because dryness at all times must be looked on as an exciting cause irrespective of tuberculous deposits. When, however, these deposits exist at the same time as the dryness the pain continues as long as any irritation is applied to them. The excruciating pain of more advanced tuberculous laryngitis is due, of course, to extensive ulceration, and has always been considered one of the characteristic differential points in determining the presence of this disease. It is unquestionably a valuable symptom in the diagnosis, but it should not be taken as pathognomonic. Ulcerations of extensive character may exist on the interior of the larynx and cause practically no pain. Moreover, there are many pathologic changes other than ulcerative which are typical of laryngeal tuberculosis, and in which pain is entirely absent.

As already seen, it is not my purpose to discuss the diagnosis of this disease when it is well established, but rather to impress certain typical features of early symptoms in order that an early diagnosis may be possible.

The use of tuberculin as a diagnostic aid is extolled by some, notably von Ruck,[14] who states that many cases show characteristic evidence of focal reaction to tuberculin preparations. Unquestionably this is true, but only to a certain extent, and should not be made the sole test.

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[7] Osler, W.: Modern Medicine, 1907, iii, 632.

[8] *Klebs*: *Tuberculosis*, 1909, p. 200.

[9] Krieg: In Edwards' Principles and Practice, 1907, p. 354.

[10] Shaeffer: Quoted by Cornet in Nothnagel's Encyclopedia of Practical Medicine, 1907, article on Tuberculosis.

[11] Jouty: Jour. Laryngol., Rhinol. and Otol., September, 1911, p. 491.

[12] Cornet: See Footnote 10.

[13] Lake: Laryngeal Phthisis, 1901, p. 17.

[14] Von Ruck, S.: Prognosis of Tuberculosis of Larynx, New York Med. Jour., Aug. 17, 1912, p. 321.

The finding of tubercle bacilli in the sputum is confirmatory evidence of tuberculosis, but the question of differentiating the locality from which this sputum was derived throws the question of local tuberculosis open. In many early cases no cough or expectoration exists, and therefore sputum examination is impossible. Much light, however, may be thrown on the situation by carefully rubbing the suspected larynx with a firm pledget of cotton and subjecting this to bacteriologic scrutiny. I have frequently been rewarded by finding tubercle bacilli by this method.

A common error is made by the general practitioner in believing a case to be one of laryngeal tuberculosis because of the presence of intermittent or constant hoarseness coming on during the course of a pulmonary infection. The most frequent cause of this error is the coincident development of laryngitis sicca. In these cases the hoarseness may be extreme, and with it at times is associated some laryngeal obstruction. It often occurs in advanced cases at a time when laryngeal tuberculosis may be expected. The uniform redness and the presence of small scales of dry secretion in the larynx clear up the diagnosis.

The development of sudden aphonia following a pulmonary hemorrhage is also suggestive of the onset of the laryngeal complication, but one should not be led into error by a snap-shot judgment in this case, for I have frequently seen this sequence of events due to a sudden pronounced bronchial lymph-node infection producing such marked pressure on the recurrent laryngeal nerve as to cause complete fixation of one lateral half of the larynx. Should this occur in a very early stage of tuberculosis before the pulmonary lesion has been detected, it would have a bearing on the general diagnosis. Occurring after the pulmonary lesion has been well defined, it by no means indicates tuberculous laryngeal invasion.

During the course of pulmonary tuberculosis and while the patient is progressing favorably in every respect, the sudden development of hoarseness, increase in general symptoms, and return of the afternoon fever frequently suggest a new focus of trouble, and the natural supposition is that the larynx is the responsible structure. This is quite frequently an erroneous conclusion. Constitutional symptoms are more frequently due to new foci in the lungs, or to gastro-intestinal disturbances, than to laryngeal invasion. Such symptoms can be ascribed to the larynx only when objective examination shows this organ to be involved in the most intense acute manifestation. Hoarseness due to moderate redness, swelling or infiltration may mean laryngeal tuberculosis, but it is not necessarily the cause of serious constitutional symptoms.

PROGNOSIS

Of all the questions concerning this disease, that of prognosis must possess the greatest significance. To know whether or not a disease is curable, how much may be expected from treatment, or how far spontaneous cure may be anticipated, affects all investigation and all problems of practical application. Without the encouraging hope of a favorable result, how little is the stimulus to original research! The encouragement given to the early investigators in general as well as local tuberculosis came from the reports of spontaneous cures.

The last twenty-five years and especially the last ten years have brought about a cheerfulness in our view of this affection which cannot be subdued by the most pessimistic. It has been a hard fight. It is still an up-hill effort, and were it not for the failure on the part of general text-books to recognize the curability of laryngeal tuberculosis, the way would be easy and more lives would be saved or at least made comfortable. Unfortunately we still see such statements as these: "The prognosis is not only bad in all cases, but when it develops as a complication of the pulmonary disease it adds an element of great danger to the previous condition."[15] No word of hope, none but of despair!

On the other hand, too great an optimism or the report of cures that must be open to question is bound to be so reactionary that discouragement becomes the greater. When we read that only mild and gentle measures cure a large percentage of early and a fair percentage of advanced cases,[16] we know that this is not borne out by the experience of many men. Our disappointment becomes so great that a return to a hopeless inaction is the result. The conservative but hopeful view is the only one which will serve to overcome the prejudice of the ages against the curability of this affection. Every case of cure, whether by spontaneous healing, by climatic influence or by judicious local treatment should be placed on record. All cases of failure should also be recorded, with an outline of the cause for such failure. In this way the extreme optimism of the enthusiastic specialist will be curbed, while the inherent pessimism of the general practitioner who has seen only the worst cases will at least be restricted.

The percentage of cures has been variously estimated by different authors, but it is almost impossible to generalize, for much depends on individual peculiarities. I know of no disease into the prognosis of which so many items enter as into that of laryngeal tuberculosis. The stage of the affection, the nature of the lesion, the situation of the lesion, the complications, the associated general or pulmonary involvement, the environment of the patient, his social position—all and more must enter into a consideration of the possible termination. Were we to study only the prognosis of early cases, the disease would no longer be one to be dreaded; on the other hand, were our statistics to be derived exclusively from late-stage cases, no hope would encourage us. A fair percentage of cures is given by Brüll,[17] who found that 58 per cent. of the patients were clinically cured when they left the sanatorium, and that of these 31 per cent. remained cured. The latter probably more nearly represents a reasonable estimate of curability in all cases.

Schroeder[18] reports 170 deaths of patients suffering from laryngeal and pulmonary tuberculosis, in only seven of whom the larynx could be held as the cause. Among his cured patients we find 30 per cent. men and 26 per cent. women. This agrees with the findings of the majority of writers, who find that although laryngeal tuberculosis is more common in the male sex, it is more fatal in the female. This must in a great measure be attributed to the occurrence of pregnancy, which Kuttner,[19] Freudenthal[20] and others have shown is one of the most serious complications that may arise in the course of tuberculosis. There is much discussion as to the induction of abortion in pregnant tuberculous women, the mooted question being with regard to the extent of the tuberculous involvement. Undoubtedly much individualization is necessary in arriving at a conclusion, but there can be little question as to the rapid progress of laryngeal tuberculosis in pregnant women, especially immediately following delivery. Therefore in cases presenting definite tuberculous lesion of the larynx, we should have no hesitancy in recommending artificial delivery.

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[15] French: Practice of Medicine, 1907, p. 390.

[16] Pottenger: Pulmonary Tuberculosis, 1908, p. 243.

[17] Brüll, L.: Curability of Laryngeal Tuberculosis, Beitr. z. klin. d. Tuberk., xxiii, No. 1; abstr., The Journal A. M. A., July 13, 1912, p. 151.

[18] Schroeder: Cited in Centralbl. Laryngol. u. Rhinol., June, 1912, p. 323.

The prognosis of laryngeal tuberculosis must be considered from two points of view, that relating to its influence on the general condition and to a possible fatal termination, and that relating to its effect on the voice. Generally speaking, the advent of laryngeal complication adds to the gravity of the prognosis. This statement applies only to those cases in which the nature of the complication is of the rapidly active type with marked edematous swelling and abundant deposits of tubercles. The seriousness of its effect on the general outcome increases with the lateness in the stage of the general disease in which it develops. In that form of laryngeal tuberculosis in which there is little or no tendency to ulceration, the form characterized by more or less firm infiltration, the progress of the general disease is not materially affected. Unquestionably the local and the pulmonary or general infection progress favorably or unfavorably one with the other, but on the whole the general infection is much more responsible for a failure to obtain laryngeal improvement than is the local affection for the general or pulmonary condition. On the other hand, the latter often improves in proportion to the favorable progress made in the larynx. This is especially true in those cases in which local treatment overcomes odynophagia, thus enabling the patient to take food. Freudenthal[21] says, "The curability of tuberculosis of the lungs depends very much on the cure of the laryngeal condition." While this may be rather a strong statement, it nevertheless possesses a large element of truth.

No one has more clearly outlined the character of cases in which a good or bad prognosis may be given than Heryng,[22] who states that the possibility of a cure is above all dependent on the constitution and resistance of the patient, together with the anatomic character of the pulmonary affection and its extent, the age, occupation and financial status of the patient and the period in which the proper treatment is begun. In addition to this a good prognosis so far as life is concerned may be assured in the infiltrative type and in those of the ulcerative variety in which the lesions are sluggish in character and situated on the interior or more protected portions of the larynx.

The prognosis as regards the restoration of the vocal function is of great importance. The mental distress occasioned by the loss of voice can be appreciated only by those who have suffered a similar affliction and, although it must be looked on as of less actual importance than the general systemic disturbances, its gravity should not be underestimated. Unfortunately, in few cases in which complete loss of voice has occurred can it be restored to perfectly normal function; nevertheless a large proportion of voices can be restored to usefulness. Even in those cases in which extensive destruction of one vocal band has resulted or marked infiltration has been present, the patient may be rescued from a voiceless future. The cases offering the least hope in this particular are those in which the arytenoids and the interarytenoid space undergo extensive fibroid hypertrophy associated with perichondritis which invades the crico-arytenoid articulation.

TREATMENT

It is not my intention in this paper to discuss individual or special lines of treatment any more at length than I have the pathology, symptomatology and prognosis of tuberculosis of the larynx. A consideration of the history of this disease shows how closely its curability, its treatment and in fact all large questions relating to it are bound together. We have already seen that the curability of the disease is largely dependent on an early diagnosis, which until comparatively recent years was the subject of but little consideration. Those cases which were in advanced stages and those complicated by extensive pulmonary tuberculosis were the only ones to which attention was directed. For many years local palliative measures in conjunction with general, dietetic, hygienic and climatic measures were the only ones recognized. Surgical intervention was, in fact, the first method of treatment which was directed with a definite purpose toward the cure of this affection.

Voltolini[23] in 1867 reported the case of a man, aged 54, suffering from advanced tuberculosis, whose larynx was filled with excrescences and covered with ulcerations. This case was treated by galvanocautery until the entrance to the larynx was freed. The deeper portions of the larynx were then seen to be filled with infiltration to such an extent that Voltolini was completely discouraged, and discontinued treatment, leaving the patient to his fate. This form of surgical treatment seems to have received but little attention and still less encouragement. In fact, Gottstein, in 1893, condemned the treatment on the ground that it might increase the trouble by producing postoperative edema. Other men, notably Schech, Gleitsmann, Schmiegelow and Serebrny, recommended this treatment more or less enthusiastically, but it was not until Ludwig Grünwald in 1907 published his monograph entitled, "Die Therapie der Kehlkopftuberculose mit besonderer Rücksicht auf den galvanokaustischen Tiefenstich und Aussere Eingriffe," that the galvanocautery received its just consideration.

The next surgical procedure was incision and scarification, advocated in 1880 by Moritz Schmidt of Frankfort. This operation was performed by knife or scissors, and consisted in incising the posterior wall and arytenoids in cases of dyspnea or dysphagia due to tuberculous edema or infiltration.

Submucous injection was first recommended by Major of Montreal in 1886. He injected 5 drops of a 30 per cent. solution of lactic acid into the infiltration of the aryepiglottic fold and in diffuse swelling of the epiglottis. Later Heryng injected iodoform emulsion, while other authors advised a variety of remedies. Chappell of New York described a special syringe which made it possible to inject with greater accuracy the remedy desired. He recommended solutions of creosote.

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[19] Kuttner: Arch. f. Laryngol., xii.

[20] Freudenthal: Laryngoscope, July, 1912, p. 273.

[21] Freudenthal, W.: Prognosis and Treatment of Tuberculosis of Larynx, Laryngoscope, July, 1912, p. 971.

[22] Heryng: Ann. Otol., Rhinol. and Laryngol., 1908, p. 1003.

[23] Voltolini: Die Anwendung der Galvanokaustik, 1867.

In 1886 Heryng of Warsaw promulgated a form of treatment which may be said to be more distinctly surgical than any method previously suggested. The idea of active surgical intervention more or less radical in character appears to have been the culmination of a gradual change of view from the former mild or entirely passive treatment in vogue. In 1879 Robinson wrote that he believed that all "caustic substances are radically wrong when applied to the ulcerated laryngeal surfaces of phthisis." Heryng's brilliant results were not confirmed by other observers; nevertheless, the surgical treatment recommended by him was on purely scientific principles, and therefore the removal of tuberculous masses by excision and the stimulation of tuberculous ulcers by curettement has been adopted as a recognized form of treatment. Krause of Berlin in 1887, Goughenheim of Paris in 1887, Gleitsmann of New York and numerous other reliable authorities have added their testimony to its value. The true status of the surgical treatment of tuberculosis is between the extremely radical measures first advocated by Heryng and others, and the extremely conservative method representing the relic of the early writers. Its true position has been more clearly defined by recognizing the fact that certain cases offer definite contra-indications, while others present ideal indications for surgical interference.

During the past few years there seems to have been no actual innovation or true advance in treatment. These years, however, have not been without great value, for they have been devoted to an adjustment of various methods previously recommended, to a separation of the good from the bad and to a more definite understanding of the indications for and the real value of each. Apparently the consensus of opinion in modern literature is strongly voiced in support of the following:

1. Treatment by means of rest to the vocal organ in conjunction with rest and general hygienic measures.
2. Local measures, modifications of surgical procedures. Among these the use of the galvanocautery seems to have at the present time the most advocates.
3. The relief of pain by injection or section of the superior laryngeal nerve.
4. The use of tuberculin

REST AND OTHER CONSIDERATIONS

Too much emphasis cannot be laid on the necessity of complete vocal rest. While this is apparently a simple method of treatment, it will be found one of the most difficult to carry out satisfactorily. It should be insisted on in all cases and in all stages. Its beneficial effect is particularly gratifying in the early cases, namely, those in which unilateral redness or moderate infiltration is found. The ulcerative cases, especially when not too far advanced, are also remarkably benefited, and it was because of the recognition of this principle that Moritz Schmidt so many years ago advocated tracheotomy The patient should be instructed to express all of his desires in writing. When this cannot be carried out satisfactorily whispering is permitted; but the whisper should be produced in the mouth and not in the throat

Besides local rest, much attention should be paid to general treatment, and although local measures must constitute a large element in the treatment of this affection, harm frequently results from insisting on the exertion necessary for the patient to keep appointments at the office. In other words, local treatment must give way in many instances to general treatment, especially when fever, rapid pulse, excessive cough and general depression point to the necessity of avoiding physical exertion. The establishment of sanatoriums has been of inestimable value in the treatment of general tuberculosis, and will be of similar worth in the management of laryngeal cases as soon as it is generally acknowledged that these cases should not be excluded from these institutions.

Recently the full importance of establishing through normal nasal respiration a more healthy condition of the upper air-passages has been recognized. At the meeting of the British Medical Association[24] in 1911 this was particularly impressed on us by such men as Watson Williams, Dundas Grant and others. In 1891 I stated my belief[25] in the importance of establishing a satisfactory hygiene of the upper air-passages, and made the following statement: "That every patient with phthisis shall breathe properly through the nose is of paramount importance in preventing a chronic catarrhal laryngitis which, having once obtained, furnishes good soil for the development of tuberculous laryngeal complication." One should not hesitate to free the nose of all obstructive lesions, and tuberculosis, instead of being a contra-indication to such operations as septal resection, is rather an indication for such an operation, except in very advanced cases.

Climatic treatment should also enter into a consideration of general measures and, notwithstanding the opinion of excellent English authorities to the contrary,[24] high altitudes and rarefied air do not increase the laryngeal complication or its severity. It is a recognized fact that dry and rare atmospheres have an excess of sunshiny days during which the patient can remain out of doors. It is not denied that the outdoor treatment has been the one great factor in the cure of tuberculosis. Humid, cloudy days are depressing and produce their injurious effects on tuberculosis in general. It must therefore be conceded, if we acknowledge the close relation between pulmonary and laryngeal tuberculosis, that whatever climate affects injuriously the pulmonary infection reacts injuriously on the laryngeal complication. The converse must naturally follow.

All of the means used in treating the general disease must enter into the management of the local affection and nothing be left undone that may improve the patient's general well-being. Fresh air, an abundance of sunshine and rest, and a maximum of nutritious food are the cardinal principles that must guide us in general treatment.

In order to enable a patient to take a maximum of food it becomes necessary to relieve dysphagia and odynophagia, and for this purpose, if for no other, local treatment becomes absolutely essential. It is remarkable what a variety of opinion one can obtain with regard to the benefits to be derived from local measures. One can find good authority for ignoring entirely the local lesion as well as for the most heroic topical measures. All degrees of activity between these two extremes will be found advocated by reputable men. Edwards,[26] who may be considered the mouthpiece of the general practitioner, states that local measures do not modify the process, that caustics do more harm than good, and that treatment is unsatisfactory. Hett[27] is a strong advocate of surgical treatment in all cases, even the most advanced. Freudenthal,[28] Hutter,[29] von Navratil,[30] and many others express their approval of more or less strenuous local measures, but temper their statements with great conservatism. The opinion of Horne[31] may serve as a guiding principle; he states that the rational treatment is to preserve the mucous membrane covering the larynx and to induce a metaplasia of the columna mucosa into the squamous variety—that is, to induce a condition of pachydermia laryngis. He further states that this is the natural process of arrest and that it can be induced and imitated by absolute rest to the voice and the submucous puncture with a galvanocautery point.

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[24] Tr. Brit. Med. Assn., July, 1911.

[25] Levy: Treatment of Laryngeal Phthisis, Tr. Colorado State Med. Soc., 1901.

[26] Edwards: Practice 1907, p. 355.

[27] Grant, D., Williams, P. W.. and Hett, G. S.: Treatment of Tuberculosis of Larynx, Jour. Laryngol., Rhinol. and Otol., November, 1911, xxvi, No. 2.

Among the local curative as well as palliative measures none has been so highly praised within the last few years as the galvanocautery, and, although it is still unrecognized by many, it must be accepted at present as one of the most satisfying. De Reynier[32] believes it to be the only surgical procedure of any value. Others are nearly if not quite as enthusiastic. The galvanocautery may be used in all forms of the disease. Superficial ulcerations readily heal under its action, while edematous infiltrative swellings frequently shrink to comparatively small size. If the experiments of Wood[33] are accepted, its value will be beyond that of anything else which we have at our command. Wood states that he has no doubt that a retarding influence is exerted beyond the area actually destroyed by the heat, and his histologic studies bear out this assumption.

More heroic surgical intervention may be carried out with benefit in many cases, particularly in those in which the infiltrations are circumscribed and soft, and thus are easily extirpated by double curet or cutting forceps, as well as in deep ulcers of sluggish character that may be stimulated into healthy activity by thorough curettage. The extirpation of infiltrated masses or the amputation of the epiglottis depends largely on the extent of the lesion and its limitations. Even though the entire tuberculous involvement cannot be removed by amputation of the epiglottis or excision of circumscribed swellings, the result of such operations has been frequently gratifying, especially as palliative measures, as shown by Lockard[34] of Denver.

Relief of the intense suffering must be considered as one of the most important indications for treatment. While local applications of anesthetic and analgesic remedies afford some relief, they have never been very satisfactory. It is no wonder, therefore, that the laryngologic world has accepted almost as a unit the blocking or section of the sensitive nerve of the larynx, namely, the superior laryngeal branch of the pneumogastric. Without entering into a detailed discussion of this method of treatment, I should like to say that it is comparatively easy of performance and that the relief is marked in a large majority of cases. Failure occasionally results, but if the nerves on both sides are attacked, the patient will derive sufficient comfort lasting from one to three weeks to urge a repetition of the procedure. The injection of alcohol into the nerve seems to be the most generally accepted procedure. Cocain, stovain and other remedies have been less acceptable. The method of injection has been described by Frey, Hoffman and others. The great advantages to be derived from this remedial agent are concisely laid down by Boulay,[35] who states that three results are accomplished:

1. It relieves pain.
2. It prevents pain for the performance of intralaryngeal operations such as canterization, etc.
3. It favors cure by allowing the patient to take food and by increasing his hopefulness.

The use of tuberculin in laryngeal as well as in general tuberculosis has for many years been a mooted question. I am satisfied that it is of value in many instances, especially as advocated by Meyer,[36] when combined with surgical measures. Blumenfeld[37] believes that it is of value, but that it should be used only in bad cases. Wilkinson[38] recommends it most strongly in all cases, and uses it to the exclusion of other remedies. Whatever view we take of its use, we can safely say that its application is desirable as an adjunct to local treatment, but that its administration must be carefully conducted. It should not be administered indiscriminately, especially when pulmonary activity is great. Selected cases that can be watched properly, preferably in sanatoriums, respond most satisfactorily.

As to the more extensive external surgical procedures such as tracheotomy, laryngofissure and laryngectomy, the work of Gluck and Sorensen[39] of Berlin stands out as the most prominent. Few as yet have had the temerity to follow in the footsteps of the surgeons, who radically extirpate the entire larynx for the relief of this affection. It is remarkable that Gluck has had the results reported, but even his success cannot make these procedures find favor with the profession at large. At any rate, so long as success has attended simpler measures, and so long as this success is rapidly increasing the number of cures, extensive, life-endangering operations must be condemned.

Metropolitan Building.

THROMBOPHLEBITIS OF THE EXTERNAL ILIAC VEIN

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Of recent years a number of monographs have appeared on thrombophlebitis. Among these may be mentioned those of Clark,[1] Brooks and Crowell,[2] Jakowski,[3] Cordier,[4] Cohen,[5] Kraemer,[6] and Kistler.[7] In addition Ludwig Aschoff[8] in a recent lecture has carefully considered the etiology and pathology of thrombosis. On the other hand, little seems to have been written on this pathologic condition in cases in which it involves the veins within the abdomen. On account of the paucity of such recorded cases it is my intention to consider in this article thrombophlebitis of the external iliac vein, going perhaps more particularly into its symptomatology and differential diagnosis, and finally to report a case complicating an otherwise uneventful convalescence from typhoid fever.

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[28] Freudenthal: Practical Medicine Series, 1911, p. 326.

[29] Hutter: Wien. klin. Wchnschr., Feb. 3, 1910.

[30] Von Navratil: Cited in Centralbl. f. Laryngol. u. Rhinol., March, 1912, p. 156.

[31] Horne: Jour. Laryngol., Rhinol. and Otol., November, 1911, p. 601.

[32] De Reynier: Cited in Centralbl. f. Laryngol. u. Rhinol., November, 1912, p. 593.

[33] Wood: Tr. Am. Laryngol. Assn., 1911, p. 184.

[34] Lockard: Tr. Am. Laryngol. Assn., 1911, p. 29.

[35] Boulay: Presse méd., Jan. 28, 1911, p. 72.

[36] Meyer: Cited in Jour. Laryngol., Rhinol. and Otol., June, 1912, p. 329.

[37] Blumenfeld: Cited in Jour. Laryngol., Rhinol. and Otol., May, 1912, p. 294.

[38] Wilkinson: Practical Medicine Series 1911, p. 329.

[39] Gluck and Sorensen: Cited in Centralbl. f. Laryngol. u. Rhinol., etc., January, 1912, p. 51.

[1] Clark: Etiology of Postoperative Femoral Phlebitis, Univ. Penn. Med. Bull., 1902-1903, xv, 154.

[2] Brooks and Crowell: The Relation of the Coagulation Time of the Blood to Thrombosis in Phlebitis, Jour. Exper. Med., 1908, x, 271.

[3] Jakowski: Ueber die Mitwirkung der Mikro-Organismen beim Entstehen der Venen-thrombosen, Centralbl. f. Bakteriol., 1900, xxviii, No. 3, p. 801.

[4] Cordier: Phlebitis Following Abdominal and Pelvic Operations, The Journal A. M. A., Feb. 16, 1905, p. 1792.

[5] Cohen: Arch. Int. Med., Nov. 15, 1911, p. 684; Dec. 15, 1911, p. 820.

[6] Kraemer, F.: Zur Frage der pramonitorischen Symptome der Thrombosen bzw. Embolien, Deutsch. Med. Wchnschr., July 11, 1912, xxxviii, No. 28, p. 1313.

[7] Kistler, H. D.: Thrombophlebitis of the Left Leg, The Journal A. M. A., Aug. 10, 1912, p. 437.

The great relative frequency of the occurrence of thrombophlebitis in the veins of the left leg is a familiar fact to most of us, and it has been commented on by many authors. This can be explained in large measure by the peculiar anatomic relations of the blood-vessels and other structures in the lower left quadrant of the abdomen. As so ably pointed out by Kistler,[7] the blood-flow in the left common iliac and external iliac veins is somewhat retarded by the peculiar anatomic relations of these vessels with the left common iliac and external iliac arteries and particularly with that of the left internal iliac artery as it arches around the left external iliac vein just below the point of origin of the latter. This tendency to a partial obstruction may also be increased by pressure against the body of the fifth lumbar vertebra and its intervertebral disk. It is not surprising, then, that below this point of partial obstruction we find a mechanical reason for the localization of thrombi and a consequent localized phlebitis. These pathologic conditions, however, occur more often at a more distal point, as in the calf or the thigh, and only rarely in the abdomen in the external iliac vein.

Thrombophlebitis in any one of the veins of the body is usually consequent on one or more of a variety of causes, as a bacteriemia or toxemia resulting from the surgical infections or infectious diseases. Thus we may see it complicating puerperal fever, or any one of the infectious diseases in which we have a pronounced toxemia or bacteriemia, as in typhoid fever, pneumonia or diphtheria. It occasionally complicates heart-disease, gout and operations, even though in the latter there may be no direct evidence of infection. Again, a simple thrombus may form if the coagulability of the blood is increased from any of a number of causes. Anything which injures or lowers the vitality of the blood-vessels tends to determine the formation of a thrombus, as does also any factor which tends to cause a pronounced slowing in the blood-stream.

Jakowski after careful experimentation points out that in most cases a constriction of the vessel-wall is needed to bring about thrombus formation, even in the presence of a bacteriemia. This vessel constriction is readily explained in the cases occurring in the left leg, and also in those occurring within the abdomen in the left external iliac vein, for the anatomic reasons already given. The same anatomic factors leading to a partial obstruction, however, do not obtain on the right side, and hence this side is much less often affected. It is thrombophlebitis occurring in the external iliac veins with which it is my purpose to deal in this article.

The symptomatology of this condition may be clear or it may be very obscure, calling for most careful watching to differentiate it early and satisfactorily from other acute abdominal conditions. I shall first consider the symptoms of this condition as they usually appear, and then give a few points which may serve to differentiate it from such acute conditions as appendicitis and perforation of the intestine.

In examining for lesions of the external iliac veins, we must carefully bear in mind their location. The external iliac vein is the continuation upward of the femoral vein and begins at the brim of the pelvis and runs upward and backward to form with the internal iliac the common iliac vein. To the clinician the external iliac vein occupies the space running upward, inward and backward from a point a little to the inner side of the middle of Poupart's ligament, passing over the brim of the pelvis to a point at the lumbosacral articulation and opposite the sacro-iliac joint. It is in this space, then, when the vein is sufficiently infiltrated, or is harboring a thrombus, that the external iliac may at times be palpated. The farther upward and away from Poupart's ligament the pathologic process occurs, just so much more difficult does palpation become, and the more confusing may be an early accurate diagnosis.

The diagnosis of thrombosis of the external iliac vein, when it is merely an extension of a like process in the femoral up into the abdomen, presents little if any difficulty; but when the process begins in the abdomen before signs have presented in the leg, the acute symptoms simulating at times other abdominal conditions, then it is that a differential diagnosis may be fraught with much difficulty. An early diagnosis in these cases is very important.

The earliest symptoms are usually a dull ache or a more or less sharp pain in the lower part of the iliac region with a subjective sense of fullness in the same location. The pain is usually localized from the beginning. This pain may be merely a dull ache, but more often it is intense, and later usually constant. There is often a sense of tightness in the same location. There may be numbness and disturbances of sensation; but, when present, they are less localized than the pain, often extending from above Poupart's ligament down into the leg.

One of the most characteristic symptoms is the behavior of the pulse. Either synchronous with or at times preceding the onset of the pain there is a sudden rise in the pulse-rate. This acceleration may at times be a rise from about normal to 110 or even 150 to the minute. The character of the pulse is usually small and may be thread-like. There may be irregularity or even intermittency. A steady step-like rise in the pulse may be the first sign to direct our attention to the possibility of thrombosis. The height of this rise in the pulse-rate is, however, not long maintained. With, or often a few hours after, the rise of pulse, there is usually a rise in the temperature. The onset or exacerbation of the fever may be accompanied by a distinct rigor, or more often by chilly sensations. The fever is usually more severe with septic thrombi. At times there may be sweating, and more rarely a cold, clammy skin.

It will often be later, sometimes twenty-four hours or more, before it will be possible to elicit anything definite by palpation. The first sign then will be a fulness or slight sense of resistance, usually with marked tenderness. There may be a moderate rigidity of the overlying muscles. Still later, if the thrombus or the inflammatory thickening is not situated too far up and back along the course of the vein, it will usually be possible by very gentle palpation to locate a firm sensitive cord in the course of the vein.

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[8] Aschoff, Ludwig: Thrombosis, Cartwright Lecture of the Alumni Association of the College of Physicians and Surgeons, New York, delivered at the New York Academy of Medicine, March 12, 1913.

After the symptoms have been limited to the abdomen for hours, or more rarely for a day or two, the process of the disease is usually indicated by enlargement and edema of the leg, whether the process has extended downward into the femoral, or upward into the common iliac vein, or perhaps has only remained in the original site. The last-mentioned process, however, is rare, for the disease usually develops into a more or less extensive phlebitis with at times the formation of additional thrombi.

Later, if the inflammation should extend downward below Poupart's ligament, it would usually manifest itself as a red line of inflammation along the course of the femoral vein. There may be a sense of increased heat in the area immediately above Poupart's ligament, but this is more constant below the ligament when the inflammation passes into the leg.

When the thrombus is inflammatory in its origin, edema often first presents itself at or near the site of the thrombus, or the edema may gradually develop in the whole lower limb at the same time. When there is little accompanying inflammation, the edema is more apt to occur at a more distal point, well down in the extremity. Edema may be a late symptom, and often on this account it is not present to help us in making an early diagnosis, which from a surgical point of view may be essential. Over the site of the thrombus or phlebitis or both, there may be a pale or glossy appearance of the integument, and there is usually increased heat. Over more distal points, however, there may be a reduction in the surface temperature. These symptoms are more often found in the leg resulting from obstruction to the venous flow from the leg. Cyanosis or a dilatation of the veins of the lower extremity may occur later. The edema of cardiac and renal disease shows more pitting on pressure than does that following thrombophlebitis. As cardiac and renal disease may be accompanying conditions, it may be well to keep this point in mind. Many of the above-mentioned symptoms may at times be lacking, even in the late stages; but when a number of them are present, the diagnosis is not difficult.

In differentiating thrombosis of the external iliac vein from other acute abdominal conditions we should carry our physical examination farther, noting the presence or absence of distention, whether regional or general tympanites is present, or whether there is free gas in the peritoneal cavity. If there is dulness in the flanks, there is usually free fluid in the peritoneal cavity, or the colon is greatly distended from intestinal obstruction. Liver dulness becoming pushed up, diminished or obliterated, might point to a perforation; but this unfortunately, is often not an early symptom of perforation of the intestine. In other acute abdominal conditions the pain is frequently not localized at the onset as is that of thrombosis of the external iliac vein, the location of the latter being a more or less constant factor. A more diffuse pain, later becoming localized, is more often seen in other abdominal conditions. The same may be said in a general way of the tenderness elicited by palpation. The presence or absence of increased peristalsis or of paresis of the intestine should be noted. When there is an acute abdominal condition accompanied by a high grade of toxemia, a marked fall in the blood-pressure follows, with possibly a cyanosis, with or without clammy skin and great prostration, together with a steady advance in the symptoms, unless the pathologic condition is relieved.

When a tumor is present in thrombus formation it is usually seen or palpated as a cord-like swelling or induration following the course of the vein. Rigidity of the overlying abdominal muscles is not so marked in cases of thrombosis of the external iliac vein as it is in many other acute abdominal conditions.

One of the most helpful signs in the early diagnosis of this condition, which has already been mentioned, is the peculiar rapid step-like rise in the pulse, which often mounts to considerable heights. The pulse, however does not usually long maintain its phenomenal increase in rate, but drops to a rate more in keeping with the temperature.

A careful examination of the blood may be of value in assisting us in making an early differential diagnosis.

Under ordinary conditions an increase in the relative number of polynuclear cells is an index to the severity of toxic absorption, and the increase in the total number of leukocytes is evidence of the resistance of the body to absorption.

In the acute stages of most of the infections there is an increase in the polynuclear leukocytes. In the early stage of thrombosis there does not seem to be in many cases so marked a rise in the polynuclear leukocytes, or in the total leukocyte count. This is particularly helpful in differentiating thrombosis of the external iliac vein from acute abdominal conditions associated with the formation of an abscess, as for instance appendicitis or on the left side an acute diverticulitis of the sigmoid.

In typhoid fever, as is well known, there is usually a leukopenia and a relative lymphocytosis. In this disease, when there is a complicating purulent exudate, and this exudate is due to the typhoid infection alone, there is no leukocytosis and no polynuclear increase. Sondern[9] tells us that in mixed infections with typhoid bacilli, such marked polynuclear percentages are not found as we usually get in pure staphylococcus or streptococcus infections. The careful periodic examination of the blood, therefore, may give us valuable confirmatory evidence.

When we come to consider the prognosis of thrombophlebitis of the external iliac vein, we must bear in mind the fact that the thrombus may or may not occupy the whole lumen of the vessel. At the start these thrombi usually lie along the side of the vessel, but later on may extend and finally occupy the whole lumen, in which case we have an occluding or obstructing thrombus. In this latter instance the prognosis will depend on how rapidly or completely the collateral circulation is established, or whether or not the thrombus is eventually absorbed and the lumen partly or wholly established.

Another point to be considered is the possibility of the separation of an embolus with its attendant dangers. The general condition of the patient has also to be considered. Where the heart and blood-vessels are sound and the circulation otherwise good, we would expect a more rapid disappearance of the symptoms. At times an organized thrombus may entirely disappear. An aseptic thrombus gives a much better prognosis than a septic one, other things being equal. Careful observers believe that organization may be well started within a week, but this is by no means the rule, and even then secondary degenerative changes may take place later with their attendant dangers.

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[9] Sondern, F. E.: General Considerations in Reference to Blood Examination in Surgical Diseases, New York Med. Jour., Jan. 26, 1907.

The case which I am about to report is that of a young man, aged 20, of athletic build, and of good health and vigor. The most serious affection from which he had suffered was an attack of scarlet fever, through which I cared for him six years previously, and from which he made a complete recovery.

On being called to see him I found that he had been ill for six days with what was said to be gastric fever. His temperature was 105.4 F., with headache, pain in the back and the history of nosebleeds. The next day, the seventh of the disease, the spleen was palpable and the Widal showed agglutination and loss of motility. The routine search for the plasmodia of malaria was negative. The urine also was negative. On the eighth day rose-colored spots appeared on the abdomen and chest; and on the tenth day the pulse became dicrotic. In other words, we had to deal with a clear case of typhoid fever. From the ninth day, when the temperature reached 105, the highest daily temperature, it went down by easy stages from day to day, until on the eighteenth day it remained at normal. A modified hydrotherapy was adopted varying from day to day, and he was kept on a rather high calorific diet. No cold baths were given.

Throughout the attack the heart and circulation had behaved well. The pulse at only three takings was over 90, and never over 92 to the minute. The average was in the lower eighties. It was as a rule fairly full, with, as usual, a tendency to dicrotism. I dwell on this point, because in this case the condition of the circulation was so good throughout the disease, that it seems to bear little etiologic relationship to the late complication which is about to be described. From the eighteenth to the twenty-fourth day convalescence was steady and uninterrupted.

On the evening of the twenty-fourth day, the seventh after the cessation of the fever, the patient was taken with a dull aching pain, alternating at times with one of a sharper character in the lower left quadrant of the abdomen. Coincidently with the appearance of this pain, the pulse began to rise and reached 132, then 140 to the minute, and became of small volume. The temperature rose only to 100.6, and that night fell again to 99, with later a drop in the pulse-rate to 102 to the minute. At the onset there was a distinct rigor.

Gentle palpation over the left iliac region discovered what seemed to be a localized point of tenderness about an inch and a half above the middle of Poupart's ligament. There was no fullness or increased heat. There was some rigidity of the left rectus. The patient was in a profuse perspiration. During the night and the morning of the following day the temperature rose steadily until it reached by the early afternoon, 103 F., the pulse hovering between 106 and 116 to the minute, its character being a variable quantity. During the day repeated blood-examinations were made by Dr. Ten Eyck Elmendorf, who remained with the patient for twenty-four hours for this purpose. The leukocyte count and the differential count were made at stated intervals. The total leukocyte count on the first examination was 10,750, later 14,700 and still later, 14,200. The differential count showed no marked polynuclear increase, and the last examination showed a return of the eosinophils which previously had been absent.

About twenty hours after the onset of the symptoms the diagnosis of thrombophlebitis of the external iliac vein could be definitely established, for on very gentle palpation the thrombosed and thickened vein could be felt just above Poupart's ligament and a sense of increased heat was imparted to the palpating fingers. Twenty-four hours later the inflammation had extended well down into the femoral vein and moderate edema of the leg had developed. The active symptoms with [illegible] lasted nine days, after which convalescence went on wi[illegible] interruption, and he made a complete recovery.

I have conside[illegible]ticularly the symptomatology of this infrequent a[illegible] [illegible]imes bewildering complication, hoping that a discuss[illegible] the subject may be of value to those who may encou[illegible] like cases.

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SKIN-GRAFTING WITHOUT DRESSINGS

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Whenever we have a long list of drugs for a certain disease, not one of them is likely to be a specific. So in our surgery, whenever a large number of procedures are devised for any one lesion, the chances are that none of them "just fills the bill." So many different dressings to be used after skin-grafting have been suggested that we are forced to conclude that none of them is ideal. And yet I believe we have an ideal dressing for skin-grafts, and that is no dressing at all.

In January, 1907, I was asked to see a patient with extensive osteomyelitis of tibia and fibula following a crush wound. There had been extensive sloughing of the muscles and skin of the leg, so that, at a consultation of surgeons at the Long Island College Hospital, an amputation had been decided on. Although there had been a profuse purulent discharge, with septic temperatures for several weeks, and I did not feel confident of saving the limb, I advised against amputation. The patient was a strapping, healthy man of 43.

After I had done several operations on tibia and fibula, there was left an extensive ulcerating superficial area extending from the ankle to the knee, and involving about three-quarters of the circumference of the leg. Over this area the skin and some of the muscles had sloughed away. In the center of this area there was a sinus discharging pus from the tibia. There was continuous absorption from the large ulcerating area and the man's general condition in consequence did not improve much.

In spite of the fact that there was a discharging bone sinus in this region I covered the entire area, with the exception of the sinus, with Thiersch grafts. In the sinus I placed an iodoform gauze packing. Had I put any kind of a dressing on the leg, the pus from the sinu would have washed away the grafts. No dressing of an kind was applied, but the leg was swung from a bed cradle. Twice a day the iodoform packing in the bon sinus was changed, without disturbing the grafts. I spite of the presence of this discharging sinus every graf took and the man's general condition rapidly improved He has to-day a very useful leg. We could not have ha a more unpromising case for skin-grafting. Could w have obtained such a result with any method of dress ing after grafting?

The result in this private case, done over six year ago under such unfavorable conditions, was so strikin that I have since that time used this method of ope grafting. In several desperate cases in the service o Dr. Lilienthal at Mount Sinai Hospital we have had th most gratifying results. In some of the cases, as in m first case, there were discharging sinuses right in th area to be grafted. And yet the grafts almost alway took. In one case, a double amputation of the breast had left a very extensive ulcerating area involving almost the entire anterior surface of the chest. In spite of various forms of dressings, and different local applications applied during a period of several weeks, there wa no sign of healing, and the patient's general condition as the result of absorption from this large ulcerating area, was becoming steadily worse. The discharge wa so profuse that we all agreed that grafts covered by any form of dressing would be unsuccessful. I covered the entire ulcerating area with thin grafts and left them exposed to the air without any dressing. The grafts all took, the patient's general condition rapidly improved, and she soon left the hospital completely cured. It is probable that we saved the patient's life by this method of grafting. I doubt the success of other methods.

Our technic is the usual one for Thiersch grafts. The grafts are cut as thin as possible and applied in the usual manner. Suppurating sinuses in the grafted area are packed with iodoform gauze. These packings are changed, as often as they become saturated with the discharge, without disturbing any of the grafts. The grafts can be placed within a half inch of a discharging sinus and they will take. During the first day or two crusts of inspissated serum form between the different grafts; these crusts should not be disturbed. For seven or eight days, or even longer, no dressing of any kind is applied. Usually after the first day or two, the grafts have already become firmly adherent and have a healthy pink color. After seven or eight days a weak ichthyol ointment is applied over the entire grafted area. Under this dressing the crusts that have formed between the grafts drop off, and soon the area assumes a normal appearance.

I have found it inadvisable to apply a wet dressing, even a bland one, until at least two weeks have elapsed. If applied earlier, the wet dressing will in some cases macerate the grafts and thus, in part at least, vitiate the operation. It is true that even after the grafts have been macerated by a wet dressing, they will often recover their vitality when the wet dressing has been removed. But it is better not to run this risk. I even prefer to wait almost ten days before applying the ichthyol dressing. During these first ten days that the grafts are exposed to the air, they are steadily becoming more hardy; and nothing is really gained, whereas much may be lost, by putting on an early dressing. The accompanying illustration shows how the grafts look after five days; no dressing of any kind has been applied since the operation. The necrotic tibia, the seat of a compound fracture, can be seen about the middle of the leg. In grafts on the extremities the leg or arm is swung free from the bed-clothes. In grafts on the trunk, a cradle to keep off the bed-clothes is all that is required.

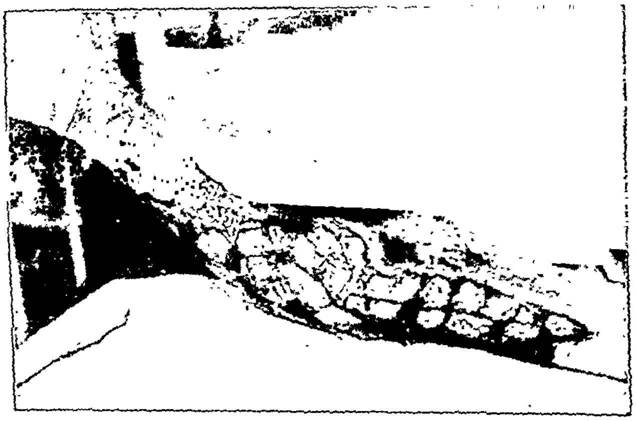

Fig. 1.—Skin-grafting without dressings, five days after operation. Note healthy appearance of all grafts.

Our results from this method of skin-grafting, even in the most difficult cases, have been so much better than our former results with various methods of dressings, that we feel justified in recommending it. If the details set forth in this paper are accurately carried out, a single trial will convince the most skeptical of its advantages.

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PLAGUE ERADICATION IN PORTO RICO

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Plague was reported present in San Juan by the local authorities June 19, four days after the first suspicious case was observed, a promptness of action unprecedented in the history of plague. A general cleaning up of the city followed, and tons of rubbish were removed.

In response to a request from the acting governor, United States Public Health Service officers experienced in plague work were at once sent to San Juan by Surgeon-General Rupert Blue, and formulated a plan for the eradication of the infection from the island.

Before discussing eradicative work in Porto Rico and the epidemiologic features connected therewith, it may be of interest to refer to several features concerning antiplague measures which were considered.

The particularly striking aspect of plague infection is the tenacity with which the infection among rodents will cling to a place. This condition obtains seemingly irrespective of social or climatic environment or geographic distribution. In civilized communities, partial suppression as pertaining to human case incident is not so difficult. Let any enlightened people know that plague has gained entrance among them and the efforts of the citizens will greatly advance the work of the health officials in cutting down the rat population, and human cases seem to cease when the rodent population is reduced 50 per cent. or thereabouts. This was noted in San Francisco, and recently in Porto Rico. This cooperation, though, will continue only so long as human cases occur. On the cessation of human cases, even though the infection among rodents may be unaffected, or even increasing, the cry will go up "Plague is over, let us quit!" and quit they do. It is the same in all countries where plague infection causes commercial prejudice against a port or works a hardship in business affairs. So it follows that plague suppression and plague eradication are two different procedures. It is therefore imperative that antiplague work accomplished in the first days of a threatened epidemic, when popular opinion is strongly approving all sanitary requirements, should be of as permanent a nature as possible. Ratproofing cannot be instituted too soon or enforced too vigorously.

In Porto Rico the cooperation of the people in plague suppression was as hearty and prolonged as could be expected in any country. But here, as elsewhere, occurred the lagging of interest, even antagonism, when eradicative measures continued after subsidence of human cases. It is this factor, then, this indifference of a community to rat infection as long as there are no human cases, that is largely responsible for the persistence of rodent plague infection. As a matter of fact, plague infection of the bubonic type, among people, is only of humanitarian interest. Plague being primarily a disease of rodents, the entire procedure of eradication concerns the rat and its parasites, and human case incidence can be ignored in pursuing a plan of campaign. This, of course, does not apply to pneumonic plague but only to the straight bubonic types that have occurred in the western hemisphere. Too often does the status of human cases serve as an index of the presence or absence of infection, without a proper survey of the rodent population. A number of places can be cited where suppressive measures were enforced only so long as human cases occurred. On the subsidence of human infection the work dragged and finally ceased, the infection continued in rodents and a recrudescence followed soon or later. This has happened notably in Trinidad and different South American ports, La Guayra and Guayaquil especially, in the Canary Islands and in various parts of the Orient.

THE PLAN PURSUED

The service plan of campaign and the extent of its enforcement, therefore, was based solely on the progress of infection among rats, the above-mentioned factors being given primary consideration in the problem of freeing Porto Rico from plague. Especial attention was paid to the rat-proofing of all buildings, the one feature of permanent effectiveness in deratization. The work was prosecuted with such vigor during July, August and September, by the Public Health Service organization, aided by the insular government forces, that the last vestige of infection in San Juan was apparently destroyed on September 11. The last case of human plague in Puerta de Tierra, the district with heaviest infection, and where the first patient was discovered, occurred on August 5 and the last rodent case on September 11. On September 8, in a suburb of San Juan, occurred the last human case in Porto Rico. It is thus seen that from the discovery of the disease till the last rodent case was a period of only eighty-four days. During that time there were fifty-five human cases with thirty-six deaths. Sixty-six infected rats were captured up to January 1, which number includes seven from Carolina, in July, and six from Caguas and Arecibo in the period from September to January. No human cases, so far as known, have occurred in Arecibo or Caguas.

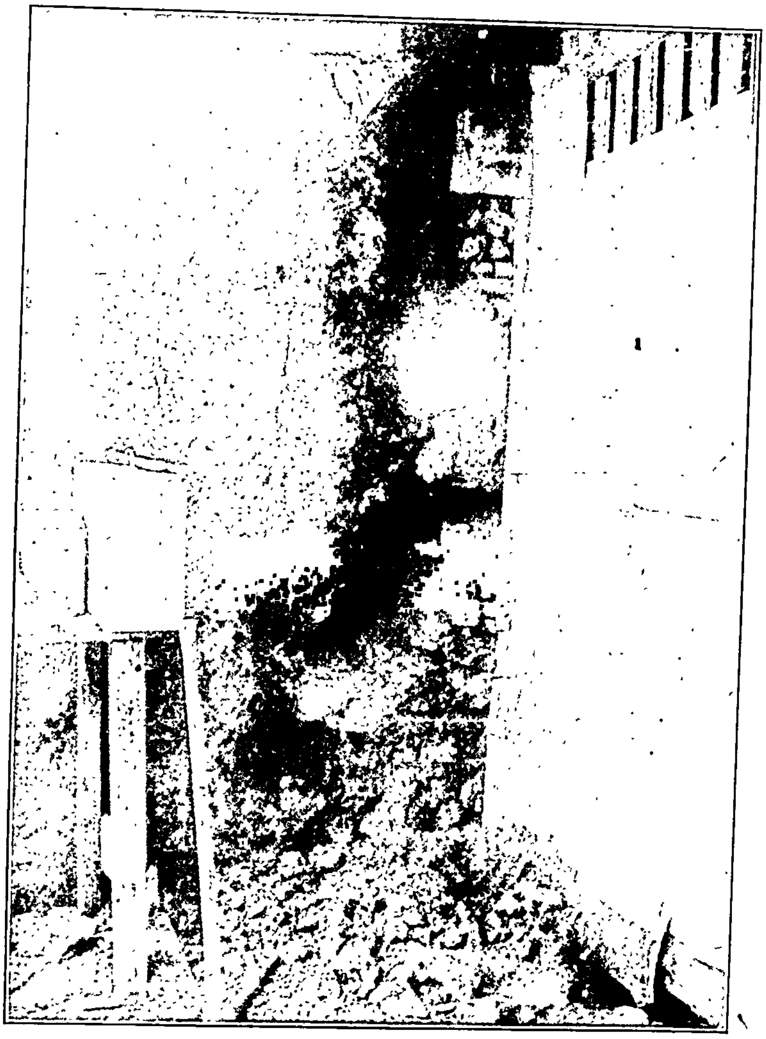

Fig. 1.—Mamposteria wall—stone, sand, clay and lime. Walls riddled with rat runs. Eight rats taken from interior wall. Site where plague rat was found.

ORGANIZATION

The essential points of the service organization were patterned after the service methods used in San Francisco in 1907-08, with modifications according to local conditions, and embraced the quickest possible rat-proofing of the whole city; wide-spread trapping and poisoning; inspection of inland-bound freight, to prevent transportation of rodents; the tagging of all rats so that the location of any infected rodent would be known and the progress of infection mapped out, and the sulphur fumigation (in conjunction with the intensive rat-proofing) of all infected premises. Disinfection was not utilized, being considered not pertinent to anti-pest measures in absence of pneumonic type, aside from involving a waste of time and money. Pulecidal measures were observed. Sulphur fumigation and petroleum, or petroleum emulsion, were the agents employed for this purpose.

The city of San Juan (the capital of Porto Rico, with a population of 50,000) is located on a headland. The site of the city is really in the formation of a peninsula, though two narrow estuaries separate it from the mainland with the formation of two islands. The estuaries are well bridged, however.

On the point of the peninsula is located the old city, together with the water front district called "La Marina" and another small suburb called "La Perla." Continuing inland, Puerta de Tierra is next met with. This is a district of San Juan built almost wholly of frame construction and separated from the older city by a quarter of a mile of unbuilt-on land. The suburb of Santurce (of modern construction) is built almost wholly of frame construction. A considerable stretch of unoccupied land separates Santurce from Puerta de Tierra, in addition to bridges over the estuary.

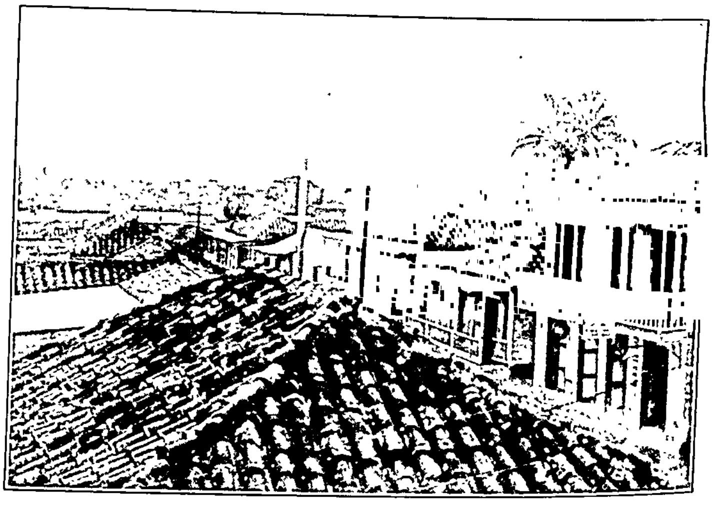

Fig. 2.—Roofing of country tiles, Caguas, P. R., which affords harbor for rats.

RAT-PROOFING

The first step taken was the securing of a rat-proofing ordinance. In general the measure embraced rat-proofing requirements for dwellings, food depots, warehouses, docks, stables and chicken yards. Dwellings were required to be elevated 2 feet from the ground, with the underpinning free, or to have at the perimeter a concrete wall 2 feet below the surface of the ground and fitting flush to the floor of the building. All food depots, from the smallest eating-place to the largest wholesale warehouse, were required to build a substantial concrete floor with side-walls of the same material extending 2 feet below ground level and 1 foot above the floor level, with the doors and windows so repaired as to exclude rats. All groceries, meat markets, bakeries, restaurants, general markets and warehouses in San Juan were so treated. Stables in Porto Rico consist only of the floor and roof, so it is not practicable to make them inaccessible to rodents. They were required, however, to have a concrete floor protected by sidewalls 2 feet in depth, the crib to stand free of all uprights with a flare from below upward, and lined on the outer side by galvanized iron. It may be added that stables in Porto Rico were found not to be the rat harbors that stables are in the United States, possibly for the reason that grass is chiefly used as feed, with very little grain. The above procedure at least prevented rat harborage about stables. Feeding-pens for chickens were required to be of concrete floor and walls, protected by one-fourth inch wire mesh.

Fig. 3.—Rat-proofing, by elevation, in Puerta de Tierra.

The requirement for docks included concrete floors and walls. One large dock in San Juan was built on filled in land. It had roof and walls of galvanized iron, but with bare earth floor. Owing to the constant settling of the ground a concrete floor was impracticable. The expedient adopted consisted in marginal rat-proofing (a concrete wall for the entire perimeter, doors fitting flush), and the interior space partitioned off by sheets of galvanized iron sunk into the ground and extending upward 5 feet. The floor space was thus subdivided into ten compartments. Once every two weeks one compartment was required to be cleaned and free of all cargo, the transfer to be effected in one day. By this procedure, not only can rats be killed but also a constant index of rodent infestation is afforded. All other docks were required to be free of cargo and cleaned once every two weeks. No matter how rat-proof a building may be, if a large quantity of freight is kept in storage, rats will accumulate therein, especially the *Mus rattus*. With exception of the dock just described, all piers were rat-proofed by concrete floors and walls.

The rat-proofing law was easily applicable to buildings of frame construction, but the class of construction in the older part of the city proved to be a problem. Most of the buildings are very old and were built long before cement was in use. Of broad walls, and constructed one against another, they may be considered sufficient from a structural standpoint, but the material of which they are composed offers no great obstacle to the passage of rats. Many had no foundations, the broad walls resting on the ground; others had shallow foundations of crushed brick with a few stones, with the interstices filled by a mixture of clay and sand. This old type of construction is known as *mamposteria,* and though somewhat different from the *pukka* construction in India, the description of buildings in Bombay by the Indian Plague Commission, both as to the nature of the material and as to the degree of rat infestation, is strikingly similar to those in San Juan. Whether the walls were built of crushed brick, or irregular stone, or brick on brick, the weak point was caused by the kind of mortar used. This old mixture of lime, sand and mud, through the onslaught of the elements, in the course of time loses its adhesive properties and becomes easily pervious to the passage of rats. Many of the walls were found to be riddled with rat runs and rat excavations. The fact that the walls were broad and had withstood earthquake shocks seemed to be sufficient argument with most of the householders that they were therefore rat-proof. Even the material evidence of rat infestation did not seem to be any refutation of this argument. As a matter of fact, the very breadth of the walls served all the more to make them rat harbors, the rats tunneling in all directions. That several cases of plague acquired their infection in buildings of this type emphasized the importance of making them as rat-proof as possible.

The absolute rat-proofing of these *mamposteria* walls was not possible. As destruction was impracticable, a device was used which was very effective. This consisted of a concrete capping on the walls, 2 feet in depth and extending upward from the floor, the latter to be of concrete. The court-yards in old San Juan likewise proved to be a feature out of the ordinary in rat-proofing. Even though a store-house might be rat-proofed to the extent of walls and floor, the pipes and wires running from the ground floor to the top of the building on the inside of the court would give easy access to such a building, more especially to the *Mus rattus* and *Mus alexandrinus*. The rat-proofing of courts, therefore, consisted in the requirement of the protection of pipes and

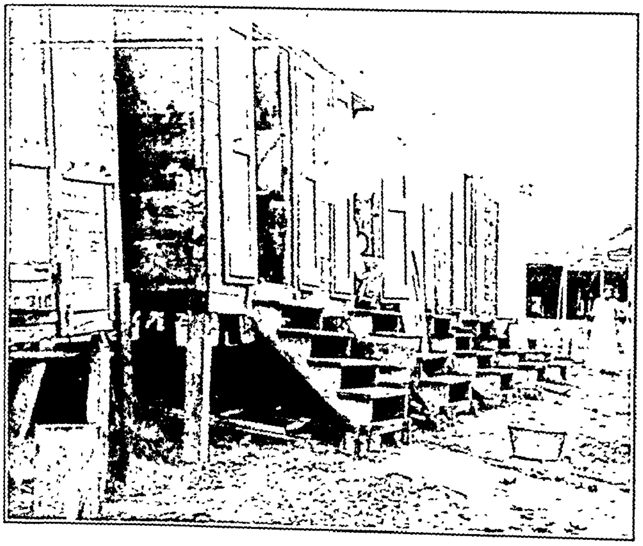
Fig. 4.—Site where a plague rat was found, after elevation. Building formerly tight to the ground.

wires by a galvanized iron collar surrounding pipes and wires, 2 feet in diameter, similar to the rat guards on ship hawsers.

RAT TRAPPING AND POISONING

For the purpose of trapping and poisoning rats the city was divided into districts and a foreman and four trappers were assigned to each. Over the foremen was placed a supervising inspector. The foremen were made responsible for the property of the trappers and for the efficiency of their work. As the local market could furnish scarcely over a hundred traps, a cable order was sent early in July to Washington for 3,000 traps of approved patterns. This number was increased in the latter part of July and August by 6,000 more. About 3,000 traps were in use for San Juan, the remaining number distributed in other parts of the island. To each trapper were assigned seventy-five traps, part cage and part snap pattern.

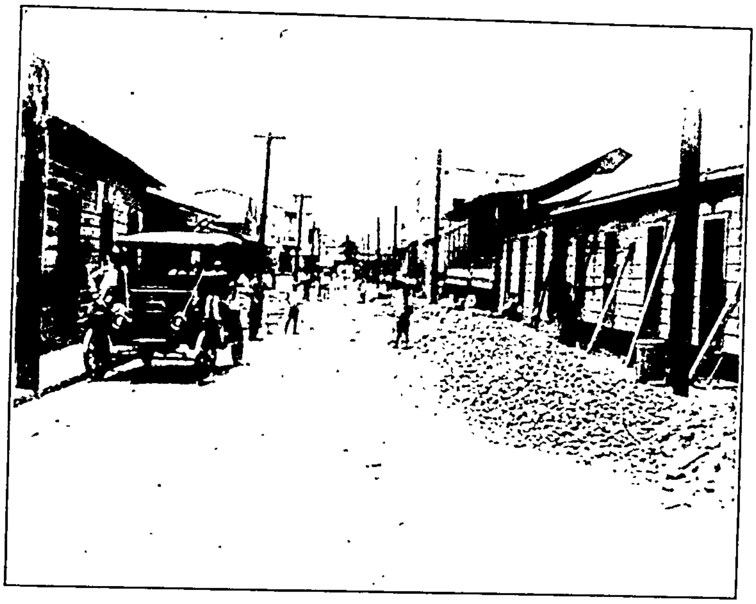

Fig. 5.—Rat-proofing in Puerta de Tierra.

Forty trappers, ten foremen and one supervising inspector constituted the trapping and poisoning force in San Juan. During the hours when trappers were not attending to traps they distributed poison. Between July 1 and January 1, 600 pounds of arsenic and phosphorus poison were distributed.

All rats were tagged with the address from which they were taken. Only in the old city were there any large sewer mains. From these a large number of rats were taken.

A large majority of the houses in San Juan have no municipal number, so it was necessary to lay out the city in districts with special numbers. In this way the municipality of San Juan was divided into fifty-four districts, each district varying from one to four hundred buildings. When an infected rat was taken or a human case discovered, evacuation followed with sulphur fumigation. Chief reliance, however, was placed on the destruction of rat harborage and intensive rat-proofing. Infectivity of houses sufficiently prolonged as to cause secondary cases was noted in four instances, three of which were in *mamposteria* buildings. These, however, were in the first days of the epidemic before sulphur fumigation or rat-proofing had commenced. No guinea-pig experiment as to the infectivity of a house was performed, as the campaign was an eradicative one and not experimental.

Tables are appended giving data concerning classification of all rodents, infected rodents, and nature of buildings from which the latter were taken.

The rat catch increased during the first two or three weeks, reaching a maximum the last week in July. From that date on a steady decline ensued. This was most marked in Puerta de Tierra where the earliest and most careful attention was given to rat-proofing. Coincident with the decline of the rat population occurred the last human case in Puerta de Tierra. The last plague rat was taken from that district in September, when the rat population was reduced to 22 per cent. of the July maximum. By January 11 the rat population had fallen to 10 per cent. in Puerta de Tierra. This decrease is all the more accentuated by the fact that the trappers were week by week becoming more experienced, the number of foremen in September being doubled, so that the supervision was twice as strict as before; and the rat bounty, which was paid in addition to their salaries, was increased from five to ten cents, with an offer of one dollar for any infected rat taken. All these factors would naturally operate to increase the number of rats caught, so that from a comparative estimate it would seem that the percentage of reduction was really greater than is indicated by the actual number of rodents caught.

The result of rat-proofing measures, in Puerta de Tierra especially, is a good example of how unnecessary is the general destruction of property in plague epidemics. There was a loud clamor for the burning of this district at the inception of the epidemic, a procedure that has been pursued in no inconsiderable number of instances in different countries. Aside from the question of property rights and needless expense, a widespread conflagration would have served only to scatter infection.

In Porto Rico, as was noted in India, general insanitary conditions did not seem to be a factor influencing in any way the incidence of human cases. The most squalid part of Puerta de Tierra, a section located on the seashore, where from the nature of the swampy ground the houses had been built more or less elevated, was especially free from human cases. From a superficial point of view one would have expected this section of congested shanties and indescribable squalor to suffer heavily from the ravages of the disease. The swampy nature of the ground, which, being more or less

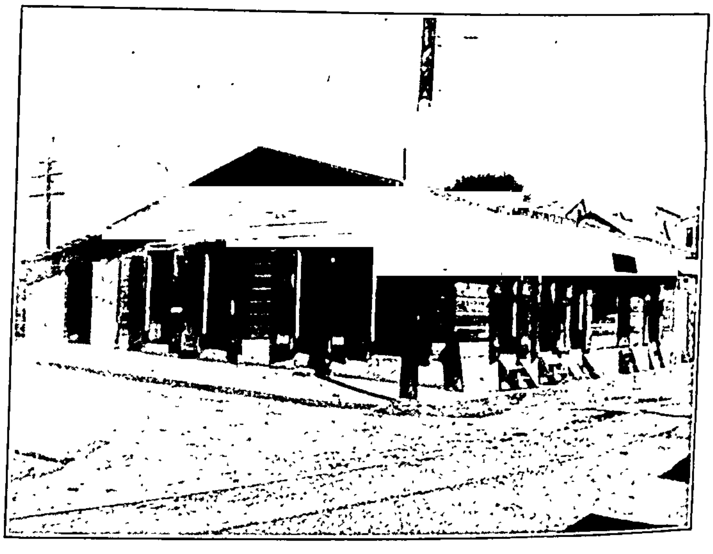

Fig. 6.—Restaurant; site of plague infection, human and rodent. Concrete floor and walls substituted for plank flooring.

inundated by the daily tides, called for an elevated construction, operated for the salvation of these people. The better part of Puerta de Tierra was the section that had the majority of all cases. Puerta de Tierra, however, despite its present unsightly and general insanitary condition, is to-day the district of San Juan most free from rats. and, consequently the best part of the municipality from the point of view of plague. Of the 1,125 buildings, all are either elevated 2 feet with underpinning free, or have a concrete floor and side walls. The marked diminution in rat population could have been secured in no other way than by rat-proofing, as it is impossible to prevent people residing there from throwing foodstuffs about the streets and lots. The entire cost of rat-proofing Puerta de Tierra was $80,000.

Accompanying the tables of rats caught is given the catch of *Mus musculus.* No bounty was paid for *Mus musculus,* and the traps used were a large pattern intended solely for the catching of rats. While any efforts of the trappers along this line were discouraged, they were directed to turn in all captured mice. The increasing number of mice, therefore, which would have been very considerably multiplied had any special effort been made to catch them, all the more emphasizes the decrease in the rat population. It is well known that mice do not live or multiply in numbers when associated with *Mus rattus* or *M. norvegicus.*

INSPECTION OF FREIGHT TRAFFIC

All inland-bound freight was inspected. Those packages that could harbor a rat were either unpacked and examined or fumigated by sulphur. In this manner fifty-seven rodents were taken from freight. None of them was infected. All freight cars were rat-proofed, and if left in San Juan freight yards over night, loaded or partly loaded, the doors were sealed by an inspector.

It is highly probable, though, that in those weeks that the epizootic prevailed, before the recognition of its presence, and immediately afterward before freight inspection was initiated, plague rats escaped from San Juan, causing the transmission of infection to Carolina, Arecibo and Caguas.

In answer to an inquiry sent to island health officials, in October, for the purpose of estimating the efficiency of this freight and car inspection, some sixteen replies were received stating that no rodents had been observed since the inauguration of the inspection, but several officials stated that before and in the first days of the epidemic, rodents had been observed escaping from cars and from packages of merchandise. This was especially noted in Caguas.

EXTENSION OF INFECTION

The discovery of a case of plague June 26 in a freight handler at Carolina handling freight from San Juan indicated that the disease had spread beyond the latter place. It was probably transmitted by rats in merchandise. The man had not been out of Carolina, which was 14 miles from Jan Juan. Two other cases occurred in Carolina, the last on July 16. Seven plague-infected rats were taken from Carolina during July but none later. July 11 a plague rat was found dead in the streets of Rio Piedras, two or three miles distant from San Juan, from which place it had probably migrated. No human cases occurred. July 13 a fatal plague case in a boy occurred in Dorado, a town 34 kilometers distant from San Juan. The week previous to death, the boy had been out of Dorado as a stowaway in freight car *en route* from San Juan to Arecibo and probably contracted his infection from an infected rat in the San Juan freight. Sept. 23, 1912, a plague rat *(Mus norvegicus)* was trapped in Caguas, 23 miles from San Juan. Other plague rodents were taken from different parts of the town October 14, December 9 and 21. Eradicative measures similar to those instituted in San Juan were employed. A plague-infected rat was trapped in Arecibo October 11 and another October 25. Routine eradicative measures were instituted. No human cases occurred. Transmission of infected rats to these places through railroad merchandise seems the more probable theory, as no rat infection was found at intermediate points, although a noticeable mortality among rats on the San Juan-Caguas turnpike was reported two or three weeks prior to the discovery of the first infected rat at Caguas.

PLAGUE PREVENTIVE MEASURES TO NON-INFECTED POINTS OF PORTO RICO

In view of the possibility of unknown rural spread of the infection among the rodents of Porto Rico, it was decided to institute active measures in the two other large seaport cities of the island. Service officers were sent to Ponce and Mayaguez in early August, and enforced the same measures in those places that were being effected in San Juan. No infected rodents were discovered in these two ports. Later on trappers were sent to Aguadilla, Bayamón, Manatí and other island towns, the rat catch being sent to the laboratory in San Juan, but no infected rodents were found from these places.

LABORATORY METHODS

The method of rodent examination was the same as that used in the service operations in San Francisco. Laboratory attendants tacked the rodents on shingles, dissected them and made clerical records concerning their source and any other data pertaining to the work. Consideration of the gross lesions was depended on for diagnosis, and animal inoculation was required for purpose of confirmation of rats suspicious of infection.

There was a marked reduction of infected rodents in August, but a reliable estimation of the progress of rodent infection from the beginning of the epidemic in San Juan is precluded for several reasons. In the first week of rat examination there was no wide-spread trapping, and the rodents examined came from a comparatively small area. The town people at first turned in many dead rats, but later, as suppressive measures worked an inconvenience, they burned them. The difference between the technic employed the first week or two and that used during the remaining days of the epidemic, would be another source of error. The first cases were diagnosed by smear only, a bipolar bacillus determining the diagnosis; whereas later the gross lesions were considered and confirmation by animal inoculation was required. During July and August a considerable number of rodents were encountered presenting marked subcutaneous injection with bubo. Smears made from the tissues would not infrequently show bipolar bacilli or a diplococcus. Without animal inoculation these rodents might have been considered as probable plague.

In addition to the examination of rats 233 mongooses which were caught in traps were sent to the laboratory for examination. None of them was found infected.

A separate record for rat catch by districts was not started in San Juan until July 10. At first the rat catch in Puerta de Tierra came mostly from buildings, but recently almost wholly from the adjoining swamp shrubbery and fields. The rat-trapping force and the number of rat traps maintained throughout the municipality did not vary, so that the percentage per trap is unnecessary in a comparative study.

TABLE 1.—CLASSIFICATION OF ALL RODENTS EXAMINED IN PORTO RICO FROM JUNE 23 TO JANUARY 11*

Norvegicus	23,453	Mongoose	233
Rattus	4,201	Unclassified*	309
Alexandrinus	5,962		
Musculus	5,137	Total number examined	39,295

* The unclassified were those examined during the first week of laboratory examination.

TABLE 2.—CLASSIFICATION OF INFECTED RODENTS

Norvegicus	37	Unclassified	24
Rattus	4		
Alexandrinus	1		66

TABLE 3.—NATURE OF BUILDINGS FROM WHICH INFECTED RATS WERE TAKEN

From dwellings	23	Turned in untagged	21
From food depots	8	Found dead on streets	10
From stables	2		
From steamships	2		66

TABLE 4.—WEEKLY RAT-CATCH IN PUERTA DE TIERRA

Date	Rats	Mice
7/10/12— 7/13/12	15	5
7/14/12— 7/20/12	193	...
7/21/12— 7/27/12	176	...
7/28/12— 8/ 3/12	174	...
8/ 4/12— 8/10/12	154	...
8/11/12— 8/17/12	136	...
8/18/12— 8/24/12	102	...
8/25/12— 8/31/12	98	7
9/ 1/12— 9/ 7/12	41	7
9/ 8/12— 9/14/12	58	13
9/15/12— 9/21/12	49	34
9/22/12— 9/28/12	51	21
9/29/12—10/ 5/12	39	27
10/ 6/12—10/12/12	48	43
10/13/12—10/19/12	33	92
10/20/12—10/26/12	26	78
10/27/12—11/ 2/12	38	7
11/ 3/12—11/ 9/12	30	47
11/10/12—11/16/12	21	35
11/17/12—11/23/12	29	60
11/24/12—11/30/12	31	47
12/ 1/12—12/ 7/12	20	57
12/ 8/12—12/14/12	45	64
12/15/12—12/21/12	20	68
12/22/12—12/28/12	10	98
12/29/12— 1/ 4/13	20	70
1/ 5/13— 1/11/13	14	126
	1,671	1,006

TABLE 5.—WEEKLY RAT-CATCH IN SAN JUAN

(The old city, Marina, and La Perla)

Date	Rats	Mice
7/10/12— 7/13/12	15	8
7/14/12— 7/20/12	121	6
7/21/12— 7/27/12	322	...
7/28/12— 8/ 3/12	357	...
8/ 4/12— 8/10/12	363	...
8/11/12— 8/17/12	257	...
8/18/12— 8/24/12	233	...
8/25/12— 8/31/12	198	15
9/ 1/12— 9/ 7/12	166	20
9/ 8/12— 9/14/12	131	30
9/15/12— 9/21/12	179	7
9/22/12— 9/28/12	184	23
9/29/12—10/ 5/12	102	33
10/ 6/12—10/12/12	145	38
10/13/12—10/19/12	143	59
10/20/12—10/26/12	82	19
10/27/12—11/ 2/12	77	48
11/ 3/12—11/ 9/12	59	6
11/10/12—11/16/12	57	56
11/17/12—11/23/12	85	57
11/24/12—11/30/12	81	44
12/ 1/12—12/ 7/12	122	36
12/ 8/12—12/14/12	73	55
12/15/12—12/21/12	152	92
12/22/12—12/28/12	97	96
12/29/12— 1/ 4/13	68	70
1/ 5/13— 1/11/13	82	55
	3,951	873

TABLE 6.—WEEKLY RAT-CATCH, SANTURCE*

Date	Rats	Mice
7/10/12— 7/13/12	94	41
7/14/12— 7/20/12	160	6
7/21/12— 7/27/12	178	...
7/28/12— 8/ 3/12	297	...
8/ 4/12— 8/10/12	276	...
8/11/12— 8/17/12	240	...
8/18/12— 8/24/12	255	...
8/25/12— 8/31/12	299	8
9/ 1/12— 9/ 7/12	319	14
9/ 8/12— 9/14/12	336	9
9/15/12— 9/21/12	342	8
9/22/12— 9/28/12	341	13
9/29/12—10/ 5/12	308	12
10/ 6/12—10/12/12	254	3
10/13/12—10/19/12	281	20
10/20/12—10/26/12	208	14
10/27/12—11/ 2/12	222	10
11/ 3/12—11/ 9/12	154	9
11/10/12—11/16/12	142	16
11/17/12—11/23/12	92	29
11/24/12—11/30/12	87	25
12/ 1/12—12/ 7/12	108	31
12/ 8/12—12/14/12	110	40
12/15/12—12/21/12	124	64
12/22/12—12/28/12	74	76
12/29/12— 1/ 4/13	107	84
1/ 5/13— 1/11/13	94	68
	5,502	600

*The rats being trapped in Santurce, as in Puerta de Tierra, now come chiefly from the swamp shrubbery and surrounding fields, instead of as formerly from buildings.

FLEA SURVEY

The number of live rats examined for fleas during the months of July and August was not sufficient to permit an estimate of the percentage of infestation. The species of fleas found were: *Xenopsylla cheopis, Ctenocephalus canis, Echidnaphaga gallinacae,* and the *Rhynchoprion penetrans* (chigoe). The latter species of flea was one found only on human beings in San Juan. Burrowing beneath the skin, it ovulates, making a very painful nodule. Several plague cases were found to have these chigoe nodules. It would be of epidemiologic interest to know whether the female immediately penetrates the skin of her first host and ovulates, or whether she may feed on one or more hosts prior to depositing her eggs. This was not determined.

SUMMARY AND CONCLUSION

From the foregoing it is seen that there were fifty-five cases of human plague in the Porto Rico epidemic, ten having occurred at the date of announcement of the disease and forty-five thereafter. All of them were of the bubonic type, with a mortality of 65 per cent.

Flea infestation in Porto Rico is very low compared with that in other tropical countries. The data are not sufficient to show whether or not there is a seasonal variation. The infestation of rats by chicken-flea in San Juan is noteworthy. The decline in rat population, as indicated by the weekly catch, was marked and to a large degree was the result of rat-proofing. The rat infection extended to four points outside of San Juan: To Carolina, a distance of 14 miles; Caguas, 23 miles; Arecibo, about 50 miles, and Rio Piedras, 3 miles. Only in the first-named village did human cases occur.

The presumptive evidence points to an extension by infected rats in merchandise. The infection in Rio Piedras might have been carried there by migratory rodent.

In Porto Rico the *Mus norvegicus, Mus alexandrinus* and *Mus rattus* infest houses, but the former predominates. *Mus alexandrinus* is the species chiefly found in rural districts. Sufficient data are not at hand as to the variation of breeding, but it is probable that there is no seasonal fluctuation of this nature among the rodents of Porto Rico.

It cannot be too strongly recommended that all ports should maintain their water front as rat-proof as possible, and as rat-free. Especially should this apply to those warehouses receiving foreign shipments. Maritime quarantine has proved of such great value that its defence is not necessary, but, nevertheless, short of prohibition of commerce, the procedure cannot be considered as absolute protection. The importation of rats as undetected stowaways in merchandise cannot be prevented where the port has extensive trade relations. Moreover, as a rodent infection may exist for several weeks prior to human cases, any port can in all good faith claim to be clean when, as a matter of fact, there may be wide-spread rat infection. It therefore behooves all seaboard cities to keep their water front premises as rat-free as possible, so that, should a plague rat gain entrance, the infection would be least apt to spread.

Established Methods in Sanitation.—The *Bulletin* of the Florida Board of Health says that it is an easy matter to follow in the wake of public clamor against imagined menaces to public health, but that it is not sound wisdom to recommend anything either to protect life or to preserve health on speculative theory or possibility. When deviation is made from this course the sanitarian is getting into deep water. Sooner or later a reversal of judgment follows, and the public, it is said, then begins to doubt whether the sanitarians really know what they are talking about. To play to the galleries of popular approval on the ground of progressive sanitation is really a hindrance to the advance of preventive medicine, and sooner or later reacts and brings discredit on the person or the board recommending it.

THE FIRST SUCCESSFUL RESECTION OF THE THORACIC PORTION OF THE ESOPHAGUS FOR CARCINOMA

PRELIMINARY REPORT *

FRANZ TOREK, A.M., M.D.
Surgeon to the German Hospital and the New York Skin and Cancer Hospital, Adjunct Professor of Surgery in the New York Postgraduate Medical School
NEW YORK

The resection of the thoracic portion of the esophagus for carcinoma has been one of the greatest problems of modern surgery. A number of careful investigators have declared their standpoint in this matter to be that operations for carcinoma of the esophagus should be undertaken only if the new growth is either high up near the neck or low down where an anastomosis with the stomach can be made, but that the growths in the middle portion of the esophagus are not removable.

The reasons for excluding these cases from the realm of operative interference were, first, the inaccessibility of that portion of the esophagus which passes underneath the arch of the aorta, and, secondly, the danger of injuring the pneumogastric nerves which in that location branch in front of the esophagus like a plexus. Division of both pneumogastric nerves at a place before they reach the heart causes instant death, and at operations in that region it has been repeatedly observed that tugging at a vagus, or pinching it, is promptly followed by collapse in the pulse which persists until death sets in. Finally, the uncertainty of the closure of the upper stump of the esophagus and the consequent infection of the pleural cavity have been a great source of danger after resection of any part of the esophagus where an anastomosis cannot be made. The leakage from that stump is undoubtedly due to the tension in the esophagus from swallowed saliva. Every contraction of the constrictors of the pharynx temporarily increases the tension in this blind pouch, until the suture finally is unable to withstand the pressure from within.

Statistics show that carcinoma of the esophagus is most frequently found in the middle third, the location in the lower third coming next, while cases in the upper third are comparatively rare. On the other hand, metastases are found most frequently with those situated in the lower third, near the cardia. Since, therefore, the carcinomas at the cardia are not only numerically less frequent than those in the middle third, but are also more frequently associated with metastases and are therefore incurable, the most important problem in cancer of the esophagus is that of extirpating the carcinomas in the middle portion, the very ones that Sauerbruch and others have told us should be left alone.

In an operation performed at the German Hospital on March 14, 1913, I have shown that the resection of the middle portion of the esophagus for carcinoma is possible.

The patient, a woman, 67 years old, had a carcinoma of the esophagus beginning a little above the lower border of the arch of the aorta and extending from there downward for an inch and a half or more. I had performed a gastrostomy on her some time previously. The difficulties of the case being known, the problem was to plan the ways and means of overcoming them. It was necessary, first, to afford better access, secondly, to perform more careful dissection of the pneumogastric nerves, avoiding rough handling of them and, thirdly, to do away with the danger of leakage from the proximal stump of the esophagus after resection.

I shall not enter into the details of the operation, but simply outline the most important parts of it.[1] Instead of seeking access by going through two different intercostal spaces and dissecting off the scapula or by resecting several adjacent ribs, procedures recommended by others, I incised through the whole length of the seventh intercostal space, from the posterior end of which I extended the incision upward by cutting through the angles of the seventh, sixth, fifth and fourth ribs, which gave a much better exposure and is far simpler. The greater ease of access enabled me to dissect the pneumogastric nerves more carefully, and, to my great satisfaction, the pulse never wavered during this procedure, remaining between 93 and 96. The dreaded vagus collapse had therefore been safely avoided. The great difficulty of dissecting that part of the esophagus which passes behind the arch of the aorta was overcome by ligating a number of the thoracic branches of the aorta and lifting it forward. Last, but perhaps most important, to avoid the danger of leakage from the upper stump of the esophagus, I eliminated the esophagus from the pleural cavity altogether. This was done by dissecting the organ loose from its attachments all the way up to the neck and bringing it out through an incision at the anterior border of the left sternocleidomastoid muscle. Thus the pleural cavity could not possibly become infected from that source.

The thorax was closed without drainage. The patient made a good recovery. Some of the stitches were removed on the fourth day; the remainder were removed on the seventh day, when the wound proved to be completely closed. Pulse, respiration, and temperature had become normal by the fifth day.

Thirty-two years ago the first successful resection of the stomach for carcinoma was performed by Billroth. It took a very long time before the operation became popular; now its performance is by no means infrequent. The operation for carcinoma of the esophagus, I feel certain, will gain friends very quickly, now that the way has been shown for its successful management. The details of the operation will be published presently. The most important thing to consider is that safety depends to a great degree on early diagnosis and early operation, and we must not forget that even very slight difficulty in swallowing may be due to cancer of the esophagus which requires operation. In the light of the success which attended this new method of attacking the disease, it becomes our evident duty to advise operation at once, and thus we shall have the satisfaction of saving the lives of many who otherwise would have been doomed to succumb to their affliction.

1021 Madison Avenue.

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* Read at a meeting of the New York County Medical Society, March 24, 1913.

[1] Anesthesia was given by tracheal insufflation according to the Meltzer-Auer method.

SUCCESSFUL TRANSPLANTATION OF GRAFT WITHOUT PERIOSTEUM

HORACE G. WETHERILL, M.D., DENVER

Since the publication of my paper, "The Growth, the Death and the Regeneration of Bone,"[1] the question has been raised whether or not the ultimate result in my second case, in which the graft *was transplanted without periosteum*, was satisfactory.

I have been reminded that few attempts have been made to transplant grafts *en masse* in human beings, *without periosteum*, and that of these many have failed. It has been pointed out that a roentgenogram made four weeks after operation is not evidence of success, and grave doubt is expressed regarding the satisfactory termination of this attempt to reproduce the bone under such circumstances.

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[1] Wetherill, Horace G.: The Growth, the Death and the Regeneration of Bone, THE JOURNAL A. M. A., March 29, 1913, p. 983.

Anticipating that the same doubts may have arisen in the minds of many other readers of The Journal from whom I have not heard, I should like to say that at this time (six months after the operation) the patient is walking without crutches and is wearing no splint or cast, and that the shaft of the bone at the grafted point feels and appears larger in diameter than the tibia of the opposite leg.

The accompanying photograph (Fig. 1) showing the boy standing on the grafted leg with the sound one raised from the floor should be convincing, as is also the roentgenogram (Fig. 2) of the grafted tibia.

Remarkable regeneration of this bone is shown after only six months of growth, and it is fair to assume that by the end of a year the bone will be satisfactorily reproduced.

Permit me to call attention again to the vastly better union shown at the lower end of the graft, where my side splice was made, than at the upper end, where the graft was driven into the excavated medullary canal. This is beautifully brought out in this last roentgenogram, and is in my opinion an important practical demonstration of the advantages of this method of making the union (that is, by a broad lateral apposition of the fragments) whenever it is possible to do so.

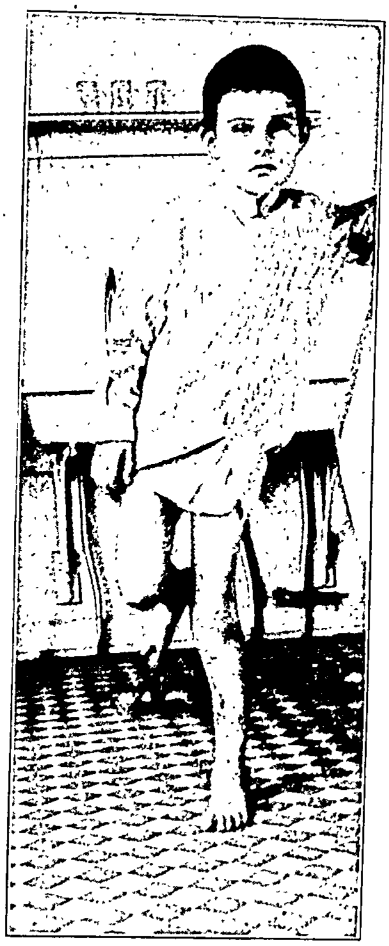


Fig. 1.—A graft 3½ inches long *without periosteum* was transplanted into the left tibia to bridge a gap, Sept. 28, 1912. Result April 6, 1913, after six months.

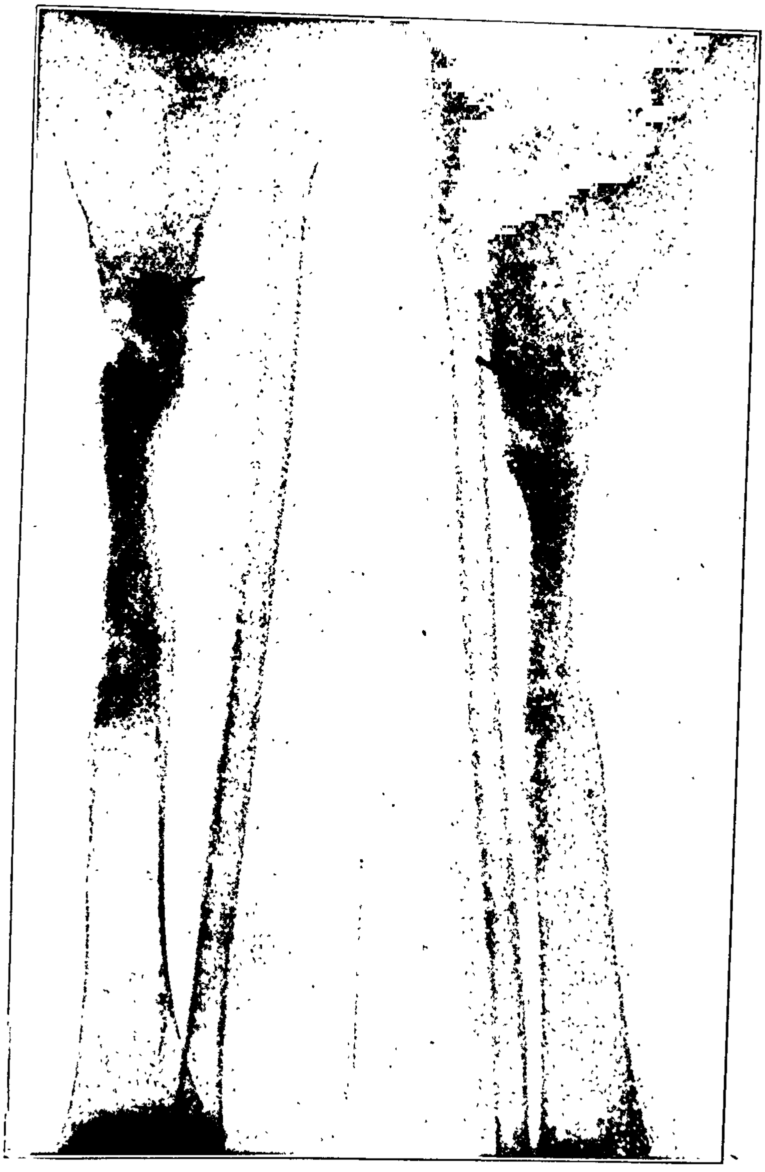


Fig. 2.—Roentgenogram of tibia made April 5, 1913. Front and lateral views. Note firm union at lower end of graft where side splice was made, and somewhat imperfect union at upper end where the graft was driven into the excavated medullary canal. The small light spot over the lower end of the graft indicates the slight necrosis which still persists from the original infection. A small suppurating sinus on the skin leads down to it.

Even the limited low-grade infection which was mentioned as having occurred at this point, and which still persists, has not interfered in any way with union between the graft and the diaphysis, and though the union at the upper end was uninfected it is not so firm or satisfactory.

310 Metropolitan Building.

IMPACTED URETERAL CALCULI RELEASED BY FULGURATION

H. D. Furniss, M.D., New York

This case is of interest in that it shows an error of diagnosis and offers a suggestion as to a new method of treatment.

Patient.—Mrs. B. G., a large, stout woman, aged 49, referred to me by Dr. E. W. Peterson. Uneventful menopause. Ten normal labors and one miscarriage. Admitted to the Post-Graduate Hospital July 16, 1912.

History.—Eleven years previously she had a sudden attack of pain in the right lumbar region, radiating downward to the bladder. This lasted for a day or two, and she passed some gravel and had moderate hematuria. There was no similar trouble until three months ago when she had a recurrence of the attack of eleven years ago. Since that time she has had frequent and urgent urination, and at times sudden cessation of the urinary flow, before the bladder was empty. She has noticed that the urine is turbid and contains enough blood to discolor it slightly. In the past three months she has had much pain in the right lumbar region.

Examination.—Radiographs were made, and as they were not very good, no shadows of stone were seen. At the time patient called I did not see these radiographs and accepted the statement that they were negative for stone. There was nothing to be palpated in the kidney regions. Vaginal examination showed a hard mass on the right side of the bladder. The catheterized specimen of the urine showed a large amount of pus and some blood. Cystoscopy: In the region of the right ureter was seen a mass about the size of a pigeon's egg, with bullous edema on the periphery, that was taken to be a flat-based papilloma and, because of the induration as felt through the vagina and the bullous edema was regarded as in all probability malignant.

Treatment. — The mass described above was fulgurated on July 20 with the D'Arsonval current, and again three days later. On examination a week after the second treatment, I was surprised to see protruding from the portion of the supposed tumor over the part fulgurated a large, black, rough stone. I suggested to the patient that she come into the hospital and allow me to remove the stone. The procedure I had in mind was to give her an anesthetic, put her in the knee-breast posture and through a No. 12 or 14 Kelly endoscope deliver the stone into the bladder by cutting open the vesical end of the ureter; then, to crush the stone with a lithotrite, and wash away the fragments.

The patient became frightened, and did not return. I wrote her to call on me, and she did so on Jan. 31, 1913. At this time she stated that she had had a number of attacks of lumbar pain since I saw her last, and one quite recently. Cystoscopy showed two stones almost the size of pigeon's eggs free in the bladder. The orifice of the right ureter was about the size of a lead-pencil. The mass that had appeared like a papilloma had disappeared.

An unsuccessful attempt was made to crush these stones with a lithotrite under local anesthesia. I directed that she have radiographs made of the whole urinary tract, as the frequent attacks of right renal pain indicated the possible presence of other stones in the kidney or ureter. After this the patient again went from under my attention and I have heard nothing further from her.

There are several noteworthy features in this case. The first is the large size of the stones that had come down the ureter. I do not think there was any increase in size of the stones after their escape into the bladder, as the appearance was the same, and neither was larger than the estimated size of the one seen just after the fulguration. Second, it is very easy to mistake such a condition for a flat-base papilloma. In all cases in which a supposed growth is situated over the vesical orifice of the ureter, and the meatus is not to be seen, the thought of stone should be entertained. In such instances a good radiograph of the lower end of the ureter will clear up the diagnosis. Third, where haste is not necessary, on account of symptoms due to ureteral obstruction, fulguration of the bladder over the stone offers a simple and bloodless method of releasing these stones. It takes about a week for the fulgurated tissue to slough away and let the stone into the bladder.

393 West End Avenue.

BURSTING RUPTURE OF THE STOMACH OF EXTRAORDINARY EXTENT

John D. Singley, A.M., M.D., Pittsburgh

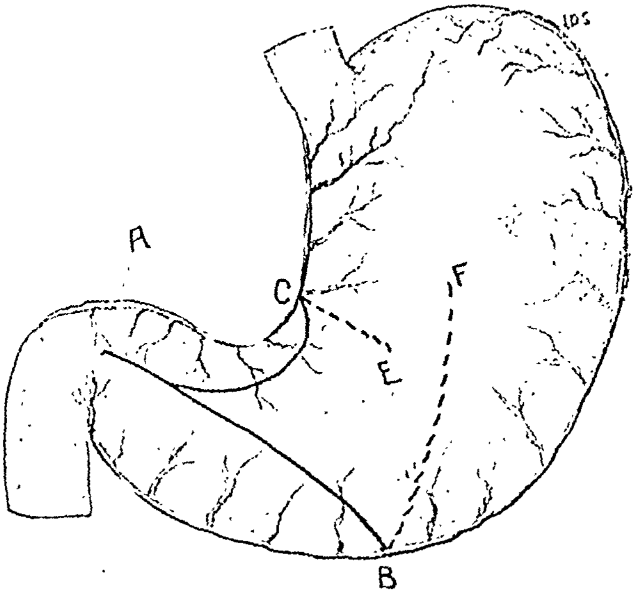
A somewhat thorough search of the literature leads me to believe that the case herewith reported is unique in the extraordinary extent of the rupture.

Patient.—B. M., aged 23, iron-worker, a large, well-formed, muscular man, was injured at 10 p. m. by having a large casting fall on him, striking his upper abdomen. He had eaten nothing after 6 p. m. When admitted to St. Margaret's Hospital at 10:30 p. m., he was in profound shock with a pulse of 136, temperature 96, respiration 26 (costal in type), skin relaxed and leaking. With appropriate treatment the pulse came down and improved in quality. There was no external evidence of trauma. The abdomen was flat in general but slightly full in the epigastrium. Percussion elicited dulness from the pubes to the umbilicus and in both flanks. There was no peristalsis. A doubtful history was obtained of the patient's having vomited blood and of his having passed some by rectum.

Operation.—A diagnosis of rupture of abdominal viscera, probably stomach, intestine or liver, with severe hemorrhage, was made and the abdomen opened through the upper right rectus at 1 a. m. After evacuating an enormous quantity of fluid and clotted blood, the stomach was found widely torn. Owing to the extent of the tear some difficulty was encountered in determining the proper relations of the torn margins. A glance at the accompanying illustration will indicate better than words can describe the enormous extent of the rupture. The viscus was completely torn across in an irregular manner with the exception of about 1½ inches (between E and F) of the posterior wall. The gastric artery at C and the gastro-epiploic artery at B were torn across, the rents extending into the gastrohepatic omentum above and the gastrocolic omentum below.

Treatment and Course.—The margins of the stomach wound were brought together with continuous inverting sutures of catgut and linen and the omental wounds closed with catgut, leaving sufficient space in the gastrohepatic omentum for the insertion of a split rubber tube with wick. A cigarette drain was placed in contact with the anterior and lower portion of the stomach. No stomach contents that could be recognized were found in the abdomen. The patient never rallied from the shock of hemorrhage and operation and died at 8 a. m.

Remarks.—Considering the lines of rupture, one is forced to conclude that the stomach burst at the moment of impact much as does a paper bag when inflated and struck. No such rupture could possibly be produced by crushing force between the spine and the traumatizing agent.



Solid lines AB and AC, lines of rupture on anterior surface of stomach; dotted lines CE and BF, lines of rupture on posterior surface of stomach. Portion of posterior wall between E and F only part of circumference remaining intact.

812 North Highland Avenue.

A NEW BOTTLE-HOLDER FOR FEEDING BABIES

A. C. Soper, Jr., Chicago

An adjustable bottle-holder for institutions caring for nursing infants has been devised on the lines of one first made by Dr. John A. Hornsby, of the Michael Reese Hospital. It is intended to lighten the work of nurses who must care for four or more bottle-fed infants at the same time, and to give the baby a better chance to feed slowly and steadily. We all know that babies when fed on the maternal breast seldom nurse uninterruptedly, but often stop for a period, look around, and then begin again. The nurse who holds the bottle at the bedside or has the baby on her lap is always rushed with work and is likely to be impatient for the baby to finish, and will not let it stop for an instant, but keeps pushing the nipple into the mouth until all is finished. This rapid feeding is one of the prime sources of indigestion, and often causes the baby to vomit. Also, bottles left on a pillow or blanket by the baby's head often roll away unnoticed by the nurse, who, coming around later must perhaps reheat the milk. The food is often spilled in this way and the baby goes hungry.

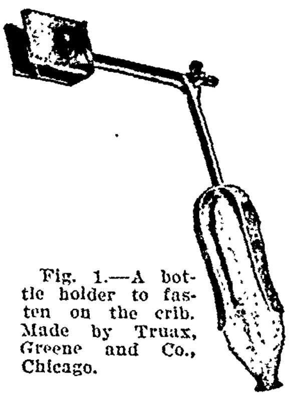


Fig. 1.—A bottle holder to fasten on the crib. Made by Truax, Greene and Co., Chicago.

This holder, being inexpensive and easy of adjustment, should find a place in all institutions that care for infants, and also in many homes.

4557 Evanston Avenue.

CASES ILLUSTRATIVE OF (1) FRACTURE OF CARPAL SCAPHOID WITH LUXATION OF SEMILUNAR, (2) FRACTURE OF CARPAL SCAPHOID WITH PALPABLE DEFORMITY

P. G. Skillern, Jr., M.D., Philadelphia
Fellow of the Philadelphia Academy of Surgery

Close study of injuries about the wrist renders the casual diagnosis of "sprain" or "contusion" less and less tenable. I have pictured and described[1] four cases of sprain—or tear-fracture, including one of the wrist, which might readily have been diagnosed and treated as "sprain" or "contusion," but which demanded the same careful immobilization as though gross fractures. So, too, fractures of the bones of the carpus, of which that involving the scaphoid is the commonest, may readily be overlooked owing to their small size and firm ligamentary interunion, factors which mask or withhold the usual signs of fracture. That these fractures can be recognized, that their frequency is greater than statistics indicate, and that many cases of otherwise unaccountable crippled wrist would not occur, these two cases illustrate. They both were seen by me in the surgical outpatient department of the University Hospital, service of Dr. B. A. Thomas, and for the exceptionally clear skiagrams I am indebted to Dr. Henry K. Pancoast. In both instances the diagnosis was made before search by x-rays by simple attention to the anatomic conditions.

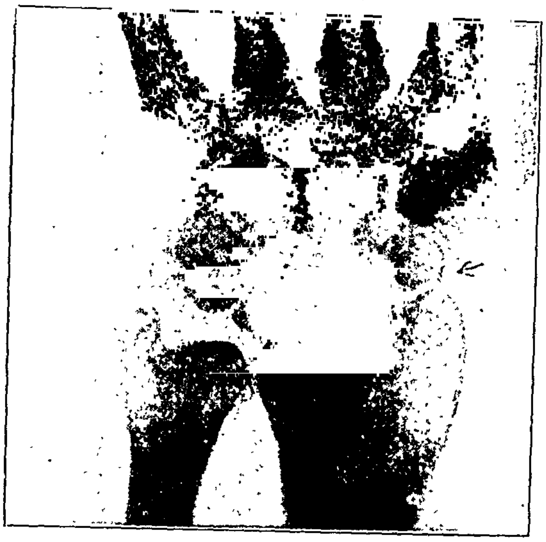


Fig. 1.—Fracture of scaphoid and luxation of semilunar. Note synostosis of tuberosity of scaphoid with tip of radial styloid.

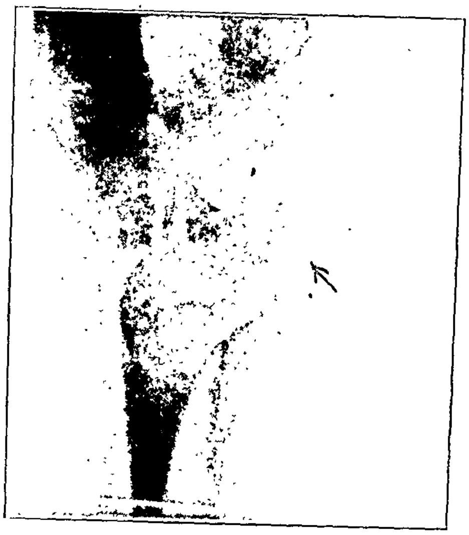


Fig. 2.—Lateral view of Figure 1. Note palmar displacement of semilunar and approximation of os magnum to radius ("shortening of carpus") to occupy the space vacated by the semilunar.

Case 1.—E. H., white, male, inspector, aged 36, had a street accident injuring right wrist; mechanism unknown. The case was treated in another hospital for two weeks as a "bad sprain," skiagram taken at the time being declared negative. Following this wrist was crippled, flexion and extension being very limited, and patient had pain in joint on the slightest motion. Tendons were not adherent. Examination showed two signs which sufficed for diagnosis, tenderness in the snuff-box with hand adducted and a bony projection into the flexor tendons in the middle of the front of the wrist. There was no puffiness, ecchymosis, crepitus or preternatural mobility. The localized tenderness in the snuff-box indicated fracture of scaphoid, while the prominence anteriorly, with a corresponding gap on dorsum between os magnum and radius, was pathognomonic of coincident luxation of semilunar, which combination is second in order of frequency to fracture of scaphoid alone, depending solely on the direction and extent of the irritating force. Skiagram (Fig. 1) showed displacement of lower end of proximal fragment toward ulnar side and in front of os magnum and also elongation in vertical diameter of semilunar (compare with same bone in Figure 3). In the lateral view (Figure 2) the latter appears beautifully clear as a three-quarters moon, with the characteristic displacement forward to just below the anterior articular edge of radius. There is shortening of carpus by approximation of os magnum to radius. Owing to the long lapse of time (seven months) since the injury, but one method of treatment was indicated, removal of the semilunar with both fragments of scaphoid. Pain is relieved and motion increased.

Case 2.—A. J., white, male, engine cleaner, aged 31, fell a week previously, striking right wrist. Examination revealed a tender prominence occupying and filling the snuff-box just below the styloid of the radius. Diagnosis was fracture of scaphoid. Skiagram (Figure 3) revealed the distal fragment (tuberosity) so shifted as to occupy and fill in the interval between the tip of the radial styloid and the trapezium. Patient refused manipulative or operative treatment. The distal fragment should have been ablated.

Isolated fractures of the scaphoid are *not* to be treated by massage and passive motion. This bone is but feebly capable of osteogenesis and is constantly bathed by the synovial fluid, the amount of which would only be increased by massage and passive motion, thus adding fuel to the fire.

The proper treatment in early cases is immobilization for a period of about four weeks. If at the end of this time there is still no union, or if the case has been untreated, or has been treated by massage and motion with resultant non-union, the fragment (ordinarily the proximal) is to be ablated through a half-inch incision between the extensor communis digitorum and extensor carpi radialis brevior tendons.

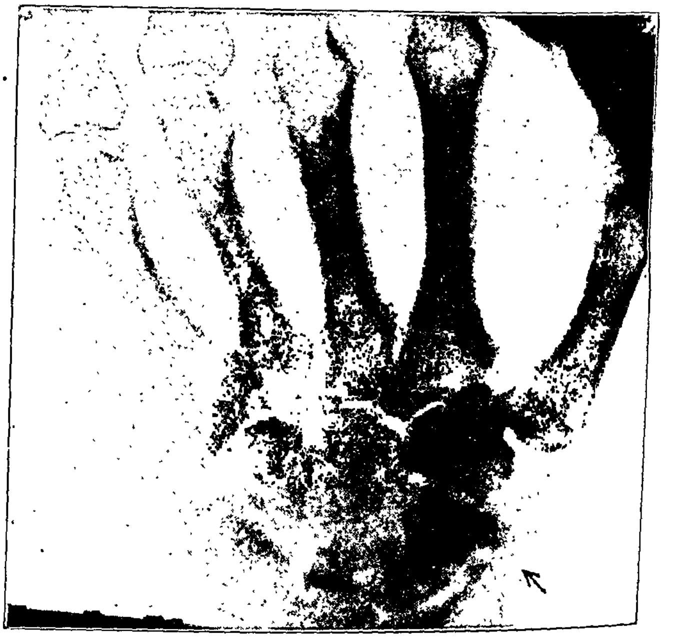


Fig. 3.—Fracture of scaphoid with deformity. Note displacement of separated tuberosity below and just external to the tip of the radial styloid, where it can be distinctly felt. After operation in this case, the patient secured complete restoration of function.

The functional result obtained in those cases in which the patients have received this method of treatment is usually perfect.

241 South Thirteenth Street.

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1. Skillern, P. G., Jr.: Ann. Surg., February, 1913, p. 289.

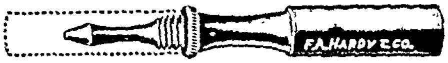
A SCLEROCORNEAL TREPHINE

Brown Pusey, M.D., Chicago

In my first use of the Stephanson trephine I felt the need of the shoulder attachment as a factor of safety. I used this attachment in several operations and in two of them found that the shoulder interfered with the application of the cutting surface at the sclerocorneal junction because of the fold of the turned-down conjunctival flap.

I then used the instrument without the shoulder attachment, but there is some danger in this.

To avoid these troubles (troubles at least for the beginner in this very promising operation), I have had made a trephine with a barrel of even diameter for *0.75 mm.* from the cutting edge, then a slight flare, as shown in the accompanying picture. This makes a very safe and very efficient instrument; indeed the instrument has proved so satisfactory that I venture to call attention to it.



A sclerocorneal trephine.

7 West Madison Street.

SHELF FOR RECTAL AND VAGINAL OPERATIONS

Henry F. Graham, M.D., Brooklyn

In many rectal and vaginal operations a shelf conveniently placed will save much time when the operator finds it necessary to lay down and pick up his needle-holder, scissors, thumb-forceps, etc., frequently.

This device weighs about 3½ pounds and hooks on the lower end of the operating-table after it has been dropped. Thumbscrews permit of adjustment near to the table or farther away.

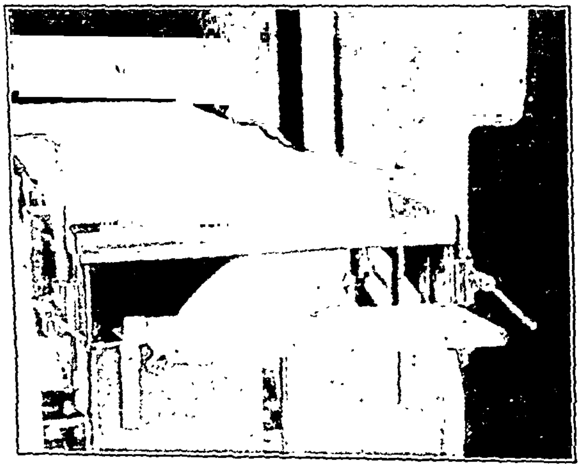


Fig. 1.—Shelf for rectal and vaginal operations.

After this had been made, I learned that Dr. E. B. Cragin of New York had used a similar device. In a letter he informs me that he has been using a shelf for about two years but has never described it in the journals.

LONGITUDINAL FISSURED FRACTURE OF THE LOWER END OF THE RADIUS

Joseph Lewi Bendell, M.D., Albany, N. Y.

Instructor in Surgery, Albany Medical College; Attending Dispensary Surgeon, Albany Hospital; Assistant Attending Surgeon, South End Dispensary

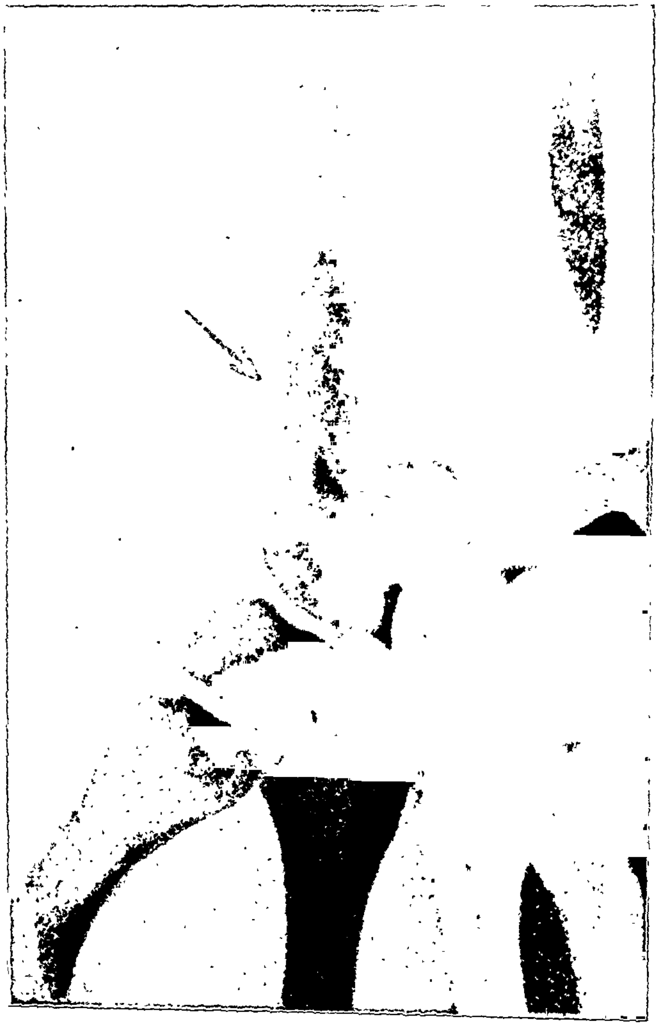
Few examples of longitudinal, or fissured, fracture of the lower end of the radius are on record. Cotton[1] speaks of only three specimens as constituting the entire evidence. Stimson,[2] who refers to the lesion as an incomplete Colles' fracture, has seen only one skiagram of the condition.

The condition was first described by Bigelow,[3] and although there are sundry references in the literature, published radiographic findings seem to be limited to Parrish's recent article.[4]

The latter, so far as I know, is the only published report (except this one) with roentgenographic illustration of the lesion.

REPORT OF CASE

W. R., aged 31, truck-driver, Sept. 19, 1912, fell from the seat of his truck, striking his right wrist against the *pavement*. At the time of the accident he paid but slight attention to the injury, although he suffered some pain in the wrist, and there was a moderate degree of limitation of motion. Shortly following, he was conscious of the fact that the wrist was swollen. A few days later, still suffering from the above-described symptoms, he decided to consult a physician. The latter, suspecting a fracture, applied a temporary dressing.



Roentgenogram of longitudinal fissured fracture of lower end of radius.

One week following the accident, the patient came under my care. The wrist at this time presented a moderate degree of edema, was sensitive to pressure, and manipulation caused pain. Deformity was, however, entirely absent.

Having in mind the possibility of a Colles' fracture without the presence of the characteristic deformity, I advised the use of the *x*-ray. A longitudinal fracture of the lower end of the radius of the fissured type, was revealed, as here shown.

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[1] Cotton: Dislocations and Joint Fractures.

[2] Stimson: Fractures and Dislocations.

[3] Bigelow: Boston Med. and Surg. Jour., 1858.

[4] Parrish, Robert C.: *Longitudinal Fracture of the Lower Extremity of the Radius*, The Journal A. M. A., Jan 11, 1913, p 123.

A plaster-of-Paris cast was applied to the wrist and lower arm for a period of ten days, at the end of which time passive motion and massage were instituted, and a roller bandage substituted for the cast.

The patient was discharged on October 20, and at the present time suffers from no disability.

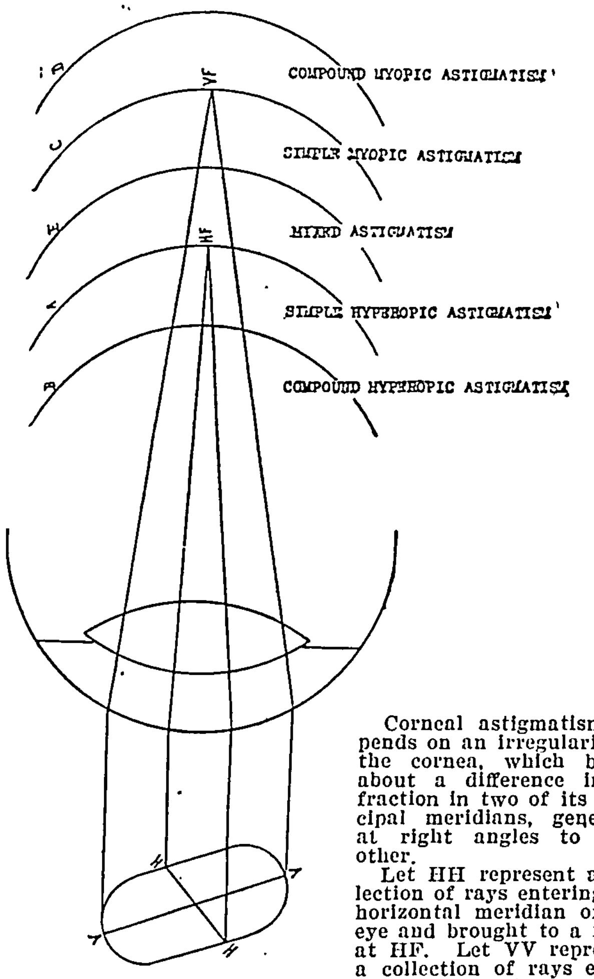
The above case is recorded, not because of its importance from a clinical point of view, but because of its rarity and its absence from the surgical literature. Doubtless, the fracture occurs with greater frequency than we might be led to believe, since absence of deformity and lack of definite symptomatology lead the attending physician to treat the injury as sprain rather than fracture.

178 State Street.

A DIAGRAM FOR TEACHING THE VARIETIES OF REGULAR ASTIGMATISM

Sidney L. Olsho, M.D., Philadelphia
Instructor in Ophthalmology, Jefferson Medical College

With the accompanying diagram, I have been able to make the subject of astigmatism a little clearer to students. So far as I have not been able to find a like diagram in any text-book. The nearest approach to it is one by Dr. Edward Jackson. I offer this with an elementary legend, which approaches the subject in a brief way.


D
C
E
A
B
VF
HF
COMPOUND MYOPIC ASTIGMATISM
SIMPLE MYOPIC ASTIGMATISM
MIXED ASTIGMATISM
SIMPLE HYPEROPIC ASTIGMATISM
COMPOUND HYPEROPIC ASTIGMATISM
H
H
V
V

Corneal astigmatism depends on an irregularity of the cornea, which brings about a difference in refraction in two of its principal meridians, generally at right angles to each other.

Let HH represent a collection of rays entering the horizontal meridian of the eye and brought to a focus at HF. Let VV represent a collection of rays entering the vertical meridian of the eye and brought to a focus at VF. Observe the interval between these foci. The kind of astigmatism present may now be said to depend on the length of the eyeball.

If the retina be situated as far back as A, we find one meridian of the eye (HH) emmetropic and one meridian (VV) hyperopic. Result: simple hyperopic astigmatism.

If the retina be situated at B, we find both meridians hyperopic, but the vertical meridian (VV) more so than the horizontal meridian (HH). Result: compound hyperopic astigmatism.

If the retina be situated as far back as C, we find one meridian (VV) emmetropic and one meridian (HH) myopic. Result: simple myopic astigmatism.

If the retina be situated at D, we find both meridians myopic but the horizontal meridian (HH) more so than the vertical meridian (VV). Result: compound myopic astigmatism.

If the retina be situated at E, we find one meridian (VV) hyperopic and one meridian (HH) myopic. Result: mixed astigmatism.

1632 Walnut Street.

Therapeutics

TRACHOMA

This disease of the eyes is becoming of more and more importance as it becomes more and more widespread throughout our country. Therefore a brief summary of the elaborate presentation of the subject by Dr. Clark[1] of Evansville, Ind., will be valuable.

In 1897 the Secretary of the Treasury declared trachoma a dangerous contagious disease, and denied an immigrant afflicted with it entrance to this country, because of the discovery that the disease was being introduced and disseminated by immigrants. It seems to be undisputed that no country is free from the ravages of the disease, the history of which goes back to ancient times, and that no race is immune from it and no age exempt, except the very young. Dr. Clark tells us that in young children the conjunctiva does not have sufficient adenoid tissue to give the disease an opportunity to develop.

Dr. Clark states that in spite of all the bacteriologic investigations, the cause of trachoma is not yet known, the specific germ has not yet been discovered. It has been clearly shown, however, that in most cases of trachoma there is a mixed infection. The disease occurs in groups, in localities, in houses, in factories, and in schools, and is spread by contact or by contamination with articles like common towels, which are handled conjointly by the afflicted patient and his fellows.

The inflammation is located in the lymphoid tissue in the meshes of the connective tissue of the conjunctiva, and is "an enormous lymphoid infiltration with cells aggregating into masses, forming papillae, which, after receiving a vascular supply, degenerate, rupture and undergo cicatrization with the formation of the characteristic scar tissue of trachoma."

Clark believes that a more or less acute inflammation always precedes this chronic process. The acute symptoms are "those of a severe conjunctivitis with lacrimation, photophobia, pain," and some swelling of the lids. He finds the ocular conjunctiva injected, and more or less chemosis present. The palpebral conjunctiva and the fornix are congested and turgid, and the follicles are swollen. Eversion of the lid causes pain. More or less purulent discharge develops and papillae form, varying in size, depending on the situation in the conjunctiva. The color of these papillae varies according to the looseness of the conjunctiva, and they may amalgamate, forming masses or folds. The next stage, which occurs after a longer or shorter time, is that of scar-tissue formation; at this stage the secretion diminishes and the ocular congestion and photophobia cease. Still later the scar tissue begins to form in the region of the aggregations of the papillae, and with the progress toward cicatrization the so-called granulations of trachoma become separated into bands or islands, a very characteristic appearance when the inflammation is well advanced toward spontaneous recovery. This scar tissue is less abundant in the lower than in the upper lid. Its formation soon causes a lagging of the lids on movement, and later may cause ptosis. The course of trachoma is chronic, and, although there may be varying degrees of intensity of the inflammation and therefore a variation in the appearance of the conjunctiva, Clark believes that trachoma is always the same, and that to describe different types is only to cause confusion.

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[1] Clark, T.: Trachoma, with Especial Reference to the State of Minnesota, Journal-Lancet, March 15, 1913, p. 159.

Pannus, which occurs in from 30 to 50 per cent. of the cases, is probably caused by irritation from the granulations, or it may be a complication of trachoma.

The contraction due to the cicatrization of the inflamed tissue often causes more or less deformity and distortion of the lids. An unhealed or persistent pannus or the scarring from ulcers may cause blindness, and Clark says that about 90 per cent. of all cases of trachoma result in damaged vision. This damage ranges from a slight refractory error to complete loss of vision.

As previously stated, the diagnosis cannot be made from the discovery of a specific germ; therefore the disease must be diagnosed by inspection. The pathognomonic signs are hyperplastic granulations associated with scar tissue. Trachoma must be differentiated from follicular conjunctivitis. In this inflammation there is follicular hypertrophy and not a hyperplasia. There is no scar-tissue formation and no pannus, and in chronic cases there may be chalky deposits, a condition which Clark says he has never seen in trachoma. Follicular conjunctivitis, moreover, is not contagious, and may exist for years without the occurrence of any corneal inflammation. Clark believes that gonorrheal ophthalmia never becomes chronic, and therefore a chronic inflammation of the conjunctiva could never be due to the gonococcus.

The treatments recommended for this inflammation are legion. The important things to consider, as outlined by Clark, are the diminishing of the acute inflammation, the hastening of the absorption of the inflammatory products, and the prevention of scarring or deforming cicatrization. In acute inflammation he believes that some silver preparation or the glycerite of tannin, with or without cold applications, is valuable. If the conjunctiva is pale, with granulations and scant secretion, he would use stimulation with the copper stick. Often the stimulating treatment should be very mild. He does not approve of some of the severe treatments that have been recommended. He approves of expression of the trachomatous follicles with roller forceps, followed by the application of astringents. This treatment should be applied, of course, only when the inflammation is chronic, and not when there is acute inflammation. In some instances scarifying of the granular tissue should be done before expression is used. Every follicle that is diseased must be cleaned, else reinfection will occur; but the greatest gentleness must be used lest needless laceration be done. Local anesthesia may be needed. The treatment after these operative measures is cold applications, and occasional eversion of the lid to prevent adhesions and the formation of pockets. Subsequently it may be wise to apply the copper stick for stimulation. Other operative measures are well described by Crigler.[2]

The general condition of the patient should, of course, never be forgotten. Anything that tends to improve the hygiene, nutrition and general welfare of the patient will aid in helping any chronic inflammation. The treatment of pannus can be decided on only by expert advice, individualizing each patient.

The seriousness of trachoma, its contagiousness, the knowledge that thousands of would-be immigrants are waiting to come to America if restriction of this disease is removed, the amount of it already in this country, and, especially, its concentration in certain localities mean that measures for its prevention should be inaugurated by every state, city and town where the disease has been discovered. Neglect of the different boards of health or health officers to take measures to prevent the spread of this disease becomes more serious every year as more foreigners come, with the attendant crowding and ignorance in regard to ordinary cleanliness. Poverty, crowding, dirt and articles used in common tend to spread this infection rapidly. The time a given person with the disease may continue to disseminate it is not known, but is probably as long as the adenoid tissues of the conjunctiva are diseased.

While the number of persons having trachoma may be diminishing in some of our larger cities where both the government and the local authorities are alert to the danger of the disease and to the segregation necessary, other cities and communities should pass such ordinances as would cause every case of trachoma to be reported. School children should be inspected for this disease. Factories should also be inspected, and where the disease is discovered the owners should take measures to prevent its spread and to eliminate it if possible. A person with trachoma should be isolated and treated until he is well. A child who is discovered to have trachoma and is banished from school should be followed to its home by a visiting nurse or some inspector from the board of health to insure that the child does not spread contagion in its own home. A medical inspector should also examine all other members of the family to note if there are other cases of the disease.

Clark urges that school wash-rooms should have faucets for running water which are controlled by foot-pressure, so that the hands need not touch the faucets. The common towel should be abolished with the common drinking-cup. These rules for cleanliness apply also to factories, hotels, office buildings and all public institutions.

Special Article

BACTERIAL VACCINE THERAPY: ITS INDICATIONS AND LIMITATIONS*

(Continued from page 1461)

CLASSIFICATION OF BACTERIAL VACCINES

Vaccines may be classified as *autogenous* and *stock vaccines.* Each of these classes is susceptible of further subdivision.

AUTOGENOUS VACCINES

Autogenous vaccines are derived from bacteria taken from the patient in whose treatment they are to be used. Autogenous vaccines are usually simple, being derived from a pure culture of a single causative organism derived from the affected tissues. In certain cases, however, differentiated mixed vaccines are employed. In some cases of mixed infection two or more species of bacteria are shown by bacterial examination to be associated in the diseased condition. These species are isolated, grown in pure culture, and converted into vaccines, and these vaccines are combined in dosage proper to the particular species at the moment of inoculation.

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[2] Crigler, L. W.: Trachoma, Its Etiology and Treatment, THE JOURNAL A. M. A., March 30, 1912, p. 925.

* This series of articles has been prepared under the direction of a committee appointed for the purpose by the Council on Pharmacy and Chemistry of the American Medical Association. The committee consists of Drs. Ludvig Hektoen, Chicago; David L. Edsall, Boston; John Howland, Baltimore; Reid Hunt, Washington, D. C., and Albert P. Ohlmacher, Detroit.

An undifferentiated mixed vaccine has been employed by cultivating all the organisms obtained from the pus or other diseased product without isolating and securing the bacteria in pure culture. This method has been urged as an emergency measure in case of rapidly spreading infection, like a traumatic cellulitis or puerperal sepsis, but on account of its great uncertainty and crudeness is to be condemned entirely.

STOCK VACCINES

A vaccine made in bulk and afterwards subdivided to obtain proper dosage is called a "stock vaccine." All commercial vaccines are of the stock variety, since, even in the final single marketed doses, they are derived from an original or stock suspension prepared and kept in the manufacturer's laboratory.

Stock vaccines may be single, containing only one variety of bacterium, or mixed, containing two or more varieties.

Polyvalence.—To those stock vaccines composed of two or more subspecies or varieties of a particular bacterial species, the term "polyvalent" has been applied. The idea is that polyvalent vaccines possess a wider range of therapeutic affinity than ordinary. The device of polyvalent stock vaccines which fit the varieties of a given bacterial species is offered as a substitute to remove the necessity of a culture with correct bacteriologic diagnosis, and to relieve the physician from making an autogenous or personal vaccine.

The word has been variously applied. Stock staphylococcus vaccines with a mixture of the species albus, aureus, citreus, etc., are by some designated as polyvalent. Again, a stock *Staphylococcus aureus* vaccine, if made from cultures secured from different lesions as boils, phlegmon, osteomyelitis, etc., would be classed as polyvalent. In other bacterial species in which variation is supposed to exist in so-called races or strains, as streptococci, pneumococci and typhoid bacilli, the effort to make polyvalent stock vaccines of any one of these consists in combining suspensions of a number of cultures secured from different individuals and different lesions.

The very frequent failure to obtain satisfactory therapeutic results with stock vaccines of a single species, race, group or strain prompted the production of those called polyvalent vaccines. Like mixed vaccines they represent an effort to hit a minute and possibly uncertain target with a widely spreading charge of therapeutic ammunition. There are no satisfactory data to prove the superiority of any of the numerous kinds of polyvalent stock vaccines over the corresponding ones of a single source. They serve simply to complicate vaccine therapy, and to engender a false sense of security on the part of physicians using them.

MIXED STOCK VACCINES

Mixed stock vaccines may be divided into those which are permissible and those which are objectionable.

Mixtures of stock vaccines are possibly permissible under certain circumstances. These circumstances are that a preliminary bacteriologic diagnosis has been made by which the identity of the species in a mixed infection has been ascertained, and that the mixture of the corresponding bacteria is made at the time of inoculation. Given the case of a cellulitis with streptococci and staphylococci identified by preliminary culture, or possibly by smears, if one had ready to hand a standardized stock vaccine of staphylococcus and of streptococcus, a portion of each to represent the desired dose could be mixed and injected, assuming that an acute process like this is suitable for vaccine therapy. For a reason to be dwelt on later, it is necessary to qualify somewhat the rationale of this procedure, which would prove successful only in case one were so fortunate as to hit on a race or strain of streptococci corresponding to that in the streptococcus vaccine.

Objectionable mixed stock vaccines include practically all the mixed vaccines now on the market. They are not even corresponding, in a sense that a preliminary bacteriologic diagnosis has established the identity of the bacterial species involved in the mixed infection under treatment. For the most part, they are to be used by the unscientific procedure of guesswork. The physician is expected to assume that two or more pathogenic bacteria contained in the mixed stock vaccine are the active agents in the case which he is treating. Having reached this assumption he discharges into his patient a mixture of bacteria including the ones whose presence is suspected, and several others, for these mixed vaccines are generally very liberal as to bacterial species entering into their composition.

USE OF AUTOGENOUS VACCINES

Theoretically, autogenous vaccines are the agents *par excellence* of vaccine therapy. By their use antibodies of precise specificity are aroused, and specificity is found to be a predominating characteristic of antibodies as further progress is made in their study. In theory, therefore, the use of autogenous vaccines provokes the formation of exactly that class of immunizing substances best suited to combine with the bacteria engaged in the disease process, or to combine with and nullify the poisons elaborated by such bacteria. This theoretical assumption of the superiority of autogenous vaccines is sustained in practice. Instead of adding a heavier burden to the individual's immunizing mechanism, already taxed in its struggle against the invading bacteria, these bacteria reintroduced as autogenous vaccines, if successful, stimulate further therapeutic immunizing responses. The experience of expert bacteriotherapists attests to the correctness of this view. This is not to say that failure is impossible. It is still far too common, even in the practice of the most experienced and best-trained workers to justify any other than a most conservative attitude; but therapeutic success, if at all attainable, follows the use of correctly prepared and properly administered autogenous vaccines, while failure, if resulting from these procedures, certainly would not be averted by using impersonal or stock vaccines. In other words, the experience of the best-qualified specialists in vaccine therapy demonstrates that the most uniform and most satisfactory therapeutic results follow the use of autogenous bacterial vaccines. Autogenous vaccine therapy, having such strong claims for superiority, should be more generally adopted. The claims for such general adoption may be summarized as follows:

1. Any result that is possible in therapeutic immunization can be secured by autogenous bacterial vaccines.
2. Therapeutic results otherwise unattainable may follow the proper use of autogenous vaccines.
3. Autogenous vaccine therapy makes prerequisite a bacteriologic diagnosis, the only really scientific method of approaching the treatment of an infection.
4. If carried out in detail by the practitioner, it assures the possession of a certain skill and experience without which vaccine therapy is merely an empiric procedure.

5. It assures a personal, intimate touch between the practitioner and the patient.

6. It assures the independence of the practitioner from commercial vaccine interests.

7. It elevates vaccine therapy to its proper level of a special practice in the hands of thoroughly qualified physicians.

OBJECTIONS TO AUTOGENOUS VACCINES

Certain objections to autogenous vaccines have been raised by good authorities. One of these is that in cases of rapidly progressing infections the time required to produce a vaccine entails a serious loss. In the hands of an expert, however, the first dose of autogenous vaccine can be prepared in from twelve to twenty-four hours after the culture-medium has been inoculated, in case the infection is due to the more usual pyogenic organisms. Therefore, objections to lost time become less serious, while there is the immense advantage of having available the precise organism or mixture of organisms causing the infection. Should the case be one with the more unusual organisms, it is altogether improbable that a stock vaccine would fit it. A more weighty objection concerns those bacterial species which are difficult to secure in culture or which are slow in growth, like the gonococcus, acne bacillus, influenza bacillus and tubercle bacillus.

Here one may be compelled to resort to stock vaccines while effort is being made to secure the autogenous one in case a culture is procurable; and it becomes a question of stock vaccines or none at all in those chronic infections like some gonorrheal rheumatisms, in which the germ is inaccessible. In case of the tubercle bacillus practically all workers resort to stock vaccine (tuberculins).

(To be continued)

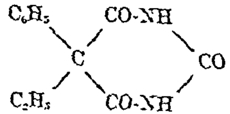
New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

LUMINAL.—Phenyl-ethyl-barbituric acid.—Phenyl-ethyl-malonyl-urea.—Luminal is phenyl-ethyl-barbituric acid, 2,4,6-trioxy-5-phenyl-ethyl pyramidin,



Phenyl-ethyl-barbituric acid (luminal) differs from diethyl-barbituric acid (veronal) in that *one* ethyl group (C_2H_5) has been replaced by one phenyl group (C_6H_5).

Luminal is a white, odorless, slightly bitter powder. It is almost insoluble in cold water, *slightly* soluble in hot water and readily soluble *in alcohol*, ether and chloroform, and in alkaline solutions. It crystallizes from boiling water in lustrous leaflets, and is precipitated unchanged by acids *from* its alkaline solutions. It melts at 170°-172° C.

If about 0.3 Gm. of luminal be shaken for a short time with 1 Cc. of normal sodium hydroxide and 5 Cc. of water, and the mixture filtered, the filtrate will yield white precipitates on the addition of mercuric chloride and of silver nitrate solutions.

If about 1 Gm. of luminal be boiled for five minutes in 10 Cc. of a 50 per cent. solution of sodium hydroxide, ammonia will *be evolved.*

If about 1 Gm. of luminal be dissolved in 5 Cc. of normal sodium hydroxide and the solution heated for four hours on a boiling water bath, the evaporated water being *replaced, crystals of* phenyl-acetyl-urea will separate on cooling. When recrystallized from dilute alcohol these crystals melt at 147° C.

If about 0.1 Gm. of luminal be dissolved in 1 Cc. *concentrated* sulphuric acid, the solution should be colorless.

If about 0.1 Gm. of luminal be incinerated, no weighable residue should remain.

Actions and Uses.—It is claimed that the introduction of the phenyl group increases the hypnotic power of luminal (phenyl-ethyl-barbituric acid) over that of veronal (diethyl-barbituric acid).

Luminal is said to produce sleep in the cat and dog with a satisfactory range between the effective and lethal doses, affording *a deep quiet sleep*, without injury to the respiration or circulation. Very rarely a period of excitement precedes sleep.

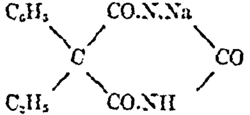
It has a sedative action on respiration, lessening the frequency of breathing, although the volume of each respiration is increased. It kills by respiratory paralysis. It is eliminated by the kidneys, a certain portion being probably decomposed in the organism. No injury to the kidneys nor gastric disturbances have been observed.

Luminal is claimed to be a useful *hypnotic in nervous insomnia* and conditions of excitement of the nervous system.

Dosage.—From 0.2 to 0.3 Gm. (3 to 5 grains) increased if necessary to 0.8 Gm. (12 grains). A maximum dose of 0.8 Gm. (12 grains) should not be exceeded. Smaller doses are sometimes efficient.

Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York). U. S. patent No. 1,025,872 (*May 7, 1912; expires 1929*). U. S. trademark No. 87,327.

LUMINAL-SODIUM.—Sodium phenyl-ethyl-barbiturate.—Luminal-sodium is sodium phenyl-ethyl-barbiturate.



the mono sodium salt of phenyl-ethyl-barbituric acid.

Luminal-sodium is a white, crystalline, hygroscopic powder, readily soluble in water. On long standing or prolonged boiling of the aqueous solution one molecule of carbon dioxide is liberated and phenyl-ethyl-acetyl-urea is precipitated. Its aqueous *solution is alkaline to litmus.*

If luminal-sodium be incinerated the residue should respond to *tests for sodium.*

If an aqueous solution of luminal-sodium be treated with a solution of potassium pyro-antimonate a white precipitate will be formed.

Luminal-sodium further responds to the tests given under luminal (which see).

Actions and Uses.—See luminal.

Dosage.—For hypodermic injection luminal-sodium is used *in* the form of a 20 per cent. solution, prepared by dissolving the salt in boiled and cooled distilled water; 2 c.c. (30 minims) of the solution contain 0.4 Gm. (6 grains) of luminal-sodium. The dose of luminal-sodium is 10 per cent. greater than that for luminal.

Luminal-sodium may be given hypodermically in doses of 0.1 to 0.3 Gm. (1½ to 5 grains).

Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York). U. S. patent No. 1,025,872 (May 7, 1912; expires 1929). U. S. trademark No. 87,327.

STREPTOCOCCUS VACCINE (See N. N. R., 1913, p. 226).

Lederle Antitoxin Laboratories, New York City. (Schieffelin and Co., New York.)

Streptococcus Vaccine (Polyvalent).—Marketed in vials and in syringes containing respectively 50 *million*, 100 million, 200 million and 400 million killed streptococci.

TYPHOID VACCINE (See N. N. R., 1913, p. 227).

Lederle Antitoxin Laboratories, New York City. (Schieffelin and Co., New York.)

Typhoid Vaccine.—Marketed in vials and in syringes containing respectively 100 million, 250 million, 500 million and 1 billion killed bacteria.

Typhoid Vaccine (*For Prophylactic Treatment*).—Marketed in vials and in syringes, each package containing 3 doses, the first dose containing 500 million killed bacteria, while the second and third dose each contain 1 billion killed bacteria.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION
535 Dearborn Avenue . . . Chicago, Ill.
Cable Address . . . . "Medic, Chicago" .
Subscription price . . . . . Five dollars per annum in advance
Contributors, subscribers and readers will find important information on the second advertising page following the reading-matter.
SATURDAY, MAY 17, 1913

RESPIRATION AND THE CIRCULATION

The movements of respiration are commonly described as having a distinct influence on the circulation by acting as an auxiliary to the heart in accelerating the blood-stream. There is assumed to be a constant aspiration of blood from peripheral parts into the thorax. The heart is portrayed as thus being better supplied with blood during inspiration than expiration, thereby tending to raise the arterial blood-pressure. The inspiratory descent of the diaphragm is believed to increase the flow into the heart by raising the positive pressure in the abdomen, so that blood is pressed out of the abdominal veins and sucked into the heart and the thoracic veins. During respiration there also occur changes in the pulmonary capillaries whereby their capacity may be increased and the resistance they offer to the flow of blood will be diminished. The effects of the respiratory movements on the systemic blood-pressure are thus explained by the influence they exert on the lung vessels or lesser circulation.

These conventional views have not remained unchallenged. Lewis believes that the variations in pericardial pressure, that is, the direct influence of the thoracic movements on the heart, play a much more important part than changes in the pulmonary circulation in such phenomena as the production of the respiratory undulations in the blood-pressure. Indeed, he concludes that it is not possible to make any general statement as to the nature of the blood-pressure response to a particular respiratory act, the effect of the respiration varying according to the type of respiratory movement.

In the Yale Medical School, Drs. Henderson and Barringer[1] have critically reviewed the evidence for some of the current notions regarding the reputed rôle of the movements of respiration in assisting the heart to propel the blood-stream. This is commonly supposed to be particularly conspicuous and physiologically helpful during the hyperpnea attending muscular exertion. These investigators conclude, contrary to the familiar belief, that neither the augmented respiration nor other influences can induce the enormous systolic discharges at rapid rates of heart-beat that have been believed to occur during vigorous physical exercise. According to Henderson and Barringer, the utmost assistance that respiration can afford is the maintenance of a venous pressure sufficient to distend the right ventricle as rapidly as it relaxes and as fully as the duration of diastole allows — conditions without which the heart action becomes subnormal.[2] Contrary to the general opinion, these investigators further hold that the influences of the rhythmic changes of the negative pressure of the thorax on the thoracic veins, on the heart and on the pulmonary blood-vessels are in reality of no considerable importance in relation to the velocity and volume of the arterial blood-stream. Under normal conditions of venous supply the respiratory variations of arterial pressure are mainly due, they believe, to corresponding alterations in the heart-rate.

After hemorrhage or in circulatory shock, when the venous pressure is below normal and the heart is therefore acting with less than full efficiency, the auxiliary action of respiration may become more important. Forcible expiratory contractions of the abdomen may momentarily increase the venous supply to the right ventricle to such an extent that the output of the left ventricle is augmented to a more nearly normal volume. These newer theories, along with the designation of the failure of the venous supply to the right heart as the "critical factor" in so-called circulatory shock, deserve careful consideration. The latter phenomenon is quite distinct from the vasomotor failure and abolition of the peripheral resistance of the arterial system seen in the shock manifestations induced by section of the spinal cord.[3]

NEW ANALYSES OF HOT SPRING WATERS

Hot springs are found in many parts of the world. Where they are reasonably accessible they are frequently made a part of a "health resort" established to exploit the curative properties of the waters. The heating of the springs is probably accomplished by deep-seated waters which are converted by contact with heated masses in the interior of the earth into vapor. This ascends through fissures toward the surface, where it meets cold springs and heats them.

When it is remarked that "hot water is hot water anywhere," so that this feature of hot springs need not induce patients to travel away from home to obtain the benefits of thermotherapy, the enthusiasts for these health resorts assure us that the waters contain other features than the heat. In many cases chemical analysis has failed to reveal any unusual content of mineral constituents to account for the alleged therapeutic effects. This is true, for example, of the waters at Hot Springs in

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[1] Henderson, Y., and Barringer, T. B., Jr.: The Influence of Respiration on the Velocity of the Blood-Stream, Am. Jour. Physiol., 1913, xxi, 399.

[2] Henderson, Y., and Barringer, T. B., Jr.: The Relation of Venous Pressure to Cardiac Efficiency, Am. Jour. Physiol., 1913, xxxi, 352.

[3] Henderson, Y., and Barringer, T. B., Jr.: Am. Jour. Physiol., 1913, xxxi, p. 362.

Arkansas, where the government reports freely admit that the dissolved matter is low in amount. These waters, like those of some other deep springs, are radio-active; and in the absence of more convincing evidence along other lines the therapeutic value of the baths at the Arkansas Hot Springs is attributed to the radio-activity of the waters rather than to any mineral constituent. The use of the waters is, however, combined with so many other features of hydrotherapy, thermotherapy, dietary supervision and hygienic living that it must remain an open question whether in truth the waters *per se* have any specific curative virtues.

It is important to have full information regarding all the factors in connection with such resorts, so that an unbiased estimate of their real merits can be frankly made known. A recent report to the United States Geological Survey brings facts regarding the waters of the Breitenbush Hot Springs.[1] They are situated near Breitenbush Creek on the west slope of the Cascade Mountains in Marion County, Oregon. The valley of the Breitenbush is narrow, and the formations exposed are lavas of the Cascade Range series. More than sixty hot springs, in three general groups, lie along both sides of the stream for almost a third of a mile. A few cold springs, entirely different in character, are within the limits of the groups, but as they are normal for the region they are unimportant. All the hot springs have nearly the same temperature, and the manner of their grouping suggests a common origin. Reputed curative properties have been assigned to the various springs, and a crude "health resort" has been constructed. Many patients take the waters each year, and if the place were more readily accessible it would undoubtedly enjoy a large patronage. The government analyses now published show that the several hot springs are merely separate outflows from a common source. The water is characterized by a content of sodium chlorid of approximately 1.5 parts per thousand, resembling other "salt" waters; but it contains small amounts of silica, calcium, bicarbonates and sulphates. The report suggests that "minimum medicinal doses of both sulphates and carbonates might be obtained by drinking about 4 liters [4 quarts] of the water, but the disagreeable and even nauseating taste of the chlorids would make the drinking of that amount in one day a herculean feat. It is certain that any curative properties attributable to the mineral content are psychologic rather than physiologic." Without prejudice as to other therapeutic possibilities, of which the still problematic radio-active hypothesis may be one, the possession of authentic information regarding all such reputed health-giving agencies is greatly to be desired as an aid to rational critique and just appreciation. To seek light in this domain is not necessarily to deny the testimony of empiric clinical experience.

ANTINEURITIC FOODS

The discovery that a disease (polyneuritis) similar in many respects to human beriberi can be induced in birds by a diet of polished rice has given a great impetus to the investigation not only of these analogous diseases, but also of the dietary antineuritic factors in general. The study of human cases involves large elements of chance and uncertainty. The results are slow in their development, problematic in their outcome, and largely dependent on conditions which are outside the range of adequate control or management. It is often a matter of watching and waiting for Nature's experiments. Most of these handicaps are removed when it becomes possible to institute the desired conditions and to observe desired pathologic states at will. The requirements of months are satisfied by days or weeks when the assistance of animal experimentation is available. The need of complete verification on human material is, however, always to be kept in mind. In a sense this forms the corollary of the experimental investigation of lower forms.

We have already noted[1] that an active antineuritic substance (or substances) has been isolated from foods in some purity, or at any rate extracted in relatively concentrated form by various investigators. It is more than likely—indeed, rumors of success are already afloat—that an antineuritic agent of comparatively simple chemical make-up will soon be synthesized or prepared; but investigations of this sort on a large scale involve great expense as well as technical difficulties, so that in lieu of the [awaited] announcement of the precise composition of the tangible antineuritic substances, some knowledge of the relative available concentration of the active component in certain common foods is likely to be of value. Doubtless they could be used effectively to supplement the diets which are believed to be deficient in the case of large groups of individuals. The Lister Institute in London has lately supplied information along these lines. Cooper[2] has determined the amounts of various foods which are necessary to prevent the occurrence of polyneuritis for a definite time in adult pigeons fed on polished rice. As pigeons fall ill with the disease in about three weeks when fed exclusively on such rice, the bearing of our earlier remarks on the relative advantages of preliminary animal experimentation becomes obvious.

It appears that the rapidity of the onset of the polyneuritis in pigeons depends in some measure on the amount of food eaten. Well-fed birds do not remain free from the affection so long as those receiving less rice. In explanation it has been suggested that birds fed on a smaller, insufficient ration have to rely on their own tissues for supplementing the food-supply, and are thus able to obtain for use a larger proportion of the antineuritic substance distributed in the tissues than the well-fed birds.

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[1] The data are given by W. VanWinkle in Jour. Ind. and Eng. Chem., April, 1913, p. 300.

[1] The Relation of Rice to Certain Diseases, editorial, THE JOURNAL A. M. A., Feb. 24, 1912, p. 557; Recent Japanese Investigation on Rice Bran in Relation to Disease, editorial, ibid., Sept. 14, 1912, p. 883.

[2] Cooper, E. A.: The Protective and Curative Properties of Certain Foodstuffs Against Polyneuritis Induced in Birds by a Diet of Polished Rice, Jour. Hyg., 1912, xii, 436.

The antineuritic substance appears to be most irregularly distributed among foods. Yeast is more efficient, according to Cooper, in preventing the polyneuritis induced by a polished rice diet than is any other food material tested by him.[3] Egg-yolk exceeds all the other foods of animal origin in antineuritic value. Its capacity for preventing the disease is not measurably altered by boiling for a few minutes. In addition to these two products, heart-muscle, lentils and barley will be effective in the prevention of beriberi; on account of their cheapness the dried lentils and unhusked barley will probably be most practicable for this purpose. Raw beef has only a small efficiency. The fact that heart-muscle is much more potent brings with it the reminder that in human beriberi heart failure is a common symptom. Sheep brain has only a low concentration of the antineuritic substance, suggesting that the latter, though essential for the integrity of the nervous structures, is not contained in them as such.

The relative efficiencies of the various foods in preventing polyneuritis and in maintaining the body-weights of birds fed on polished rice do not correspond. This indicates that the antineuritic constituent and the substances maintaining body-weight are not identical. Cooper believes that the latter substances are not protein, fatty or lipoidal in nature.

STAPHYLOCOCCUS CULTURES TO CAUSE DIPHTHERIA BACILLI TO DISAPPEAR FROM CARRIERS

It long seemed as if little or nothing of any real account could be done to hasten the disappearance of diphtheria bacilli from the throats and noses of carriers. Removal of large tonsils and of adenoids as well as the usual treatment of other chronic nasopharyngeal conditions have not been uniformly and promptly successful; and it does not seem that the disappearance of the bacilli can be hastened by the use of ordinary gargles of various kinds. The conviction was forming that really there was nothing to do but to let "Nature take its course."

The results of certain experiences recently reported with the procedure suggested by Schiötz,[1] a Danish physician, however, indicate that a really serviceable method may have been found. By chance Schiötz observed that a patient with a sore throat apparently due to *Staphylococcus aureus* did not contract diphtheria, although placed in a diphtheria ward; and furthermore that intercurrent attacks of sore throat were followed by the disappearance of diphtheria bacilli previously present. This led him to introduce broth cultures of staphylococci into the throats of chronic carriers of diphtheria bacilli with altogether gratifying results; that is to say, the bacilli promptly vanished and the carriers suffered no harm whatever. There are now several reports at hand of equally satisfactory results with this procedure.[2] In no case has any evil been noted and in almost all cases the bacilli have disappeared quickly. Lorenz and Ravenel found staphylococcus spray more effective than the ordinary antiseptic applications in diphtheria as judged by the promptness of the disappearance of the bacilli in most of the cases so treated.

Usually fresh broth cultures of staphylococci have been applied either on swabs or in the form of spray into the throat and nose at intervals of three or four hours or so. The way in which the staphylococci act under these circumstances is not known. De Witt did not find any antagonism between the staphylococcus and the bacillus in test-tube experiments. In view of the success of the Schiötz method, which appears to be quite harmless under the circumstances, further trials seem fully warranted. If further experience yields results as satisfactory as those obtained hitherto the problem of the diphtheria carrier will have been simplified very much and the necessity for much irksome quarantine removed. It would be highly interesting to learn whether sterilized cultures of *Staphylococcus aureus* or sterile products of the growth of this germ also can cause diphtheria bacilli to disappear from the throat, because if so, there would be no hesitation whatever about making use of the method, which perhaps might be applied with advantage in the later stages of all cases of diphtheria.

WHO IS RESPONSIBLE FOR THE LITHIA WATER FRAUD?

It has long been recognized by physicians that one of the greatest frauds perpetrated on the American public is the exploitation of the so-called "lithia waters"—some of the most widely sold of which contain less lithia than does the water of most of the rivers of the United States. Millions of dollars have been expended on these waters and now the United States government, under the federal Food and Drugs Act, is spending large sums in an effort to compel the dealers to label their product truthfully, and the dealers are spending still larger sums in an effort to perpetuate the present labels.

Who is really responsible for the "lithia water" delusion? We regret to have to state that it is chiefly the medical profession. It originated in the medical profession; it was founded on some crude and unscientific experiments and perpetuated by members of the profession blindly accepting the statements of exploiters of all kinds of waters dubbed "lithia waters" to meet the demand originally created by physicians. In a similar way the profession is largely responsible for many of the "lithia" nostrums which are being foisted on the public as "uric acid solvents."

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[3] See also Barsickow: Experimentelle Untersuchungen über die therapeutische Wirkung der Hefe bei der alimentären multiplen Polyneuritis der Meerschweinchen und Tauben, Biochem. Ztschr., 1913, xlviii, 418.

[1] Schiötz: Ug[illegible]sk. f. Læger, 1909, lxxvi, 1373; abstr., The Journal A. M. A., Jan. 29, 1910, p. 422.

[2] Page, Henry: Diphtheria Bacillus-Carriers, Arch. Int. Med., January, 1911, p. 16. Catlin, S. R., Scott, L. O., and Day, D. W.: Successful Use of the Staphylococcus Spray on Diphtheria Carriers, The Journal A. M. A., Oct. 28, 1911, p. 1452. De Witt: Jour. Infect. Dis., 1912, x, 24. Lorenz, W. F., and Ravenel, Mazyck P.: The Treatment of Diphtheria Carriers by Overriding with Staphylococcus Aureus, The Journal A. M. A., Aug. 31, 1912, p. 690. Wiener: New York State Med. Jour., 1913, xiii, 75.

There is a question of greater present interest, however: Is the medical profession now laying the foundation for similar frauds in the future? The answer must unfortunately be in the affirmative. As repeatedly pointed out, many of the proprietaries advertised in medical journals and used by physicians to-day will be the typical "patent medicine" of to-morrow. Just as the lack of scientific training and the resultant gullibility led to the lithia water fraud, so now the lack of thorough education (with all that this term implies) is responsible for the present proprietary evil.

The most discouraging feature of the case is that many medical students are not receiving an education which will safeguard them from falling into the same errors; in only a few schools, for example, do the students receive instruction which would enable them to point out to a patient in a few convincing words the fallacy of the use of the so-called lithia waters. It is certainly a remarkable fact that although the number and complexity of new drugs are increasing at a rate hitherto unknown, never in the history of medicine has the study of drugs been so neglected in many of the leading medical schools as at present. This is not altogether a question of poverty, for several of these schools have recently introduced excellent departments of bacteriology, preventive medicine, physiologic chemistry and the rather indefinite subject of "experimental medicine," although they have no department of pharmacology, or practically none. It would seem to require no argument to show that the students of such institutions are not receiving the education to which they are entitled.

Serious attempts to discover new remedies of value have been practically abandoned by the medical schools; in the efforts of our Association, through the Council on Pharmacy and Chemistry, to keep its members informed on new drugs, as much reliance has had to be placed on men outside of medical schools as on those connected with medical schools. The teaching of the fundamental facts concerning the drugs which every physician, be he an internist or a specialist in any branch, uses every day is left largely to chance. Is it not time for our medical schools to reinstate the study of drugs, even if some of the work in other branches has to be curtailed? The medical profession should recognize its part in the origination and perpetuation of such frauds as that of the "lithia waters," and our medical schools should realize that graduates of to-day in their knowledge of these important subjects are often relatively no better off, if indeed they are as well off, as graduates of two or three decades ago.

PROGRESS OF HOOKWORM ERADICATION

The completion of the third year of activity of the Rockefeller Sanitary Commission for the Eradication of Hookworm finds commendable progress to have been made as evidenced by the annual report of the commission for the year 1912. Undoubtedly the actual work done has been vastly augmented by the stimulation of popular and professional interest in the eradication of hookworm infection and the present wide-spread recognition of the physical, mental, social and economic menace of this disease.

The survey of foreign countries for the prevalence of the hookworm, as noted in THE JOURNAL a year ago,[1] showed a general infection of those parts of the earth lying between 36 degrees north latitude and 30 degrees south latitude, a belt 66 degrees in width encircling the earth. Within this belt is included a considerable part of the United States; eleven states in particular have been found heavily infected. In Texas 83 counties have the infection and of the 884 counties in the other ten states, infection has been found in 796. It is presumable that the remaining 88 counties will also be found infected when the work is extended to them. In all, 238,755 persons were treated at an expenditure per person treated of 77 cents, as compared with 140,378 persons treated in 1911 at an average expenditure per person of $1.05, and 14,443 treated in 1910 at an average expenditure per person of $4.66. In the three years, a total of 393,566 persons have been treated for uncinariasis.

The total expenditure of the commission for the year was $184,671.60 in addition to which the sum of $22,482.44 was spent by counties, and $19,972.52 by states for fighting the hookworm, making a grand total of $227,126.56. The microscopic examinations made in 1912 numbered 326,951, as against 90,724 in 1911, and 14,789 in 1910.

There is an excellent and increasing tendency to use the microscope in diagnosis. The procedure is simple and every physician should employ it. Experience teaches that many persons are infected who present very slight or no clinical signs of the disease and, on the other hand, that not every anemia that manifests symptoms is due to the hookworm. In this connection it is of interest to note that in his annual report for the year 1912, on the examination of immigrants at San Francisco, Dr. W. C. Billings[2] calls attention to the fact that 1,556 cases of uncinariasis were certified in 1912, this being more than double the number certified in 1911. Billings ascribes this increase to improved methods of examination and points out that the results conclusively demonstrate that at least in Oriental races it is impossible to detect all cases of hookworm infection by clinical examination alone, and that the microscope is absolutely essential. He found a high ratio of infections with negative clinical signs.

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[1] Report on Hookworm Eradication, editorial, THE JOURNAL A. M. A., June 22, 1912, p. 1946.

[2] Billings, W. C.: Annual Report U. S. P. H. S., 1912, p. 142.

In connection with the field work against hookworm infection, various studies were conducted. Among these was an investigation of 129 cases of amenorrhea due to the hookworm which illustrated the unsuspected frequency of uncinariasis as a cause of amenorrhea. An effort is being made to discover a better vermifuge than thymol. This is a very important point. Although thymol has proved efficient, its careless use is attended with certain dangers and there is a distinct need for a more efficient vermifuge without the necessity for dietary restrictions and purgation.

The method of treatment recommended is as follows: A dose of Epsom salt is administered on the evening of the first day, or one dose is given at 5 p. m., a light supper at 6 p. m., and another dose of Epsom salt at 8 p. m. On the second day one third of the dose of thymol is given at 6 a. m., one third at 7 a. m., and one third at 8 a. m. At 10 a. m. another dose of Epsom salt is given. This permits the withdrawal of the last one or two doses of thymol if unfavorable symptoms supervene. The average dose is 30 grains. It is considered best in giving the Epsom salt to dissolve a tablespoonful of the salt in a tablespoonful of water, administer this and then have the patient drink copiously of water. After the morning dose of salts following the thymol, water should not be given so freely. During the administration of the thymol, little if any water is allowed. About an hour after the third dose of thymol, a cup of coffee without milk is permitted, and half an hour after the morning salts, one or two cups of coffee without milk but with crackers.

Current Comment

THE MECHANISM OF PROTEIN ASSIMILATION

Inasmuch as recent studies by Folin and his associates and also by Van Slyke and Meyer have made it appear likely that the problem of protein assimilation is in reality a question of how the digestion fragments, the amino-acids, are disposed of in the organism, it becomes of great interest to trace them from the alimentary canal through the blood-stream to the tissues to ascertain their final fate. Van Slyke and Meyer[1] have found that amino-acids introduced into the circulation quickly disappear. The suggestion is obvious that either they are destroyed or removed with great rapidity by the tissues. The more recent work of the New York investigators makes it evident that a concentration in the tissues occurs. The muscles, liver, kidney, spleen and pancreas, for example, soon contain about ten times as much amino-acid nitrogen as is found in the blood per unit of mass. The amount of amino-acids thus taken up out of the blood by different tissues varies, that taken by the brain being especially small. The means by which these products of digestion are held in the tissues appear to be physical rather than chemical; indeed, the facts thus far known are consistent with the assumption that the amino-acids are taken up from the blood and held in the tissues by absorption, chemical transformation of the absorbed compounds following later. The amino-acids thus retained disappear from the kidneys at a rate incomparably greater than that at which they leave the muscles or other organs. Their disappearance from the liver and kidneys is accompanied by an increase in the urea content of the blood. Van Slyke believes that while the muscles are stored with amino-acids up to their saturation-point after heavy protein feeding, the liver and kidneys metabolize their portion of the products as rapidly as they receive them; so that perhaps the entire task of removing the digestion products from the blood-stream when the other tissues become saturated devolves on these two sets of organs. To this may be added the hypothesis that most of the proteolytic products which the liver and kidneys take up are normally broken down, the nitrogenous portion appearing as urea.

A COUNCIL ON PATENT MEDICINES

The better class of drug journals, in common with the better class of the pharmacists themselves, have long recognized the anomalous position in which the modern druggist stands. On the one hand, the druggist urges physicians to return to rational prescribing and to eschew proprietary products; on the other hand, the druggist himself stands before the medical profession as a dispenser of "patent medicines" — proprietary remedies of the most unscientific and frequently fraudulent type. In commenting on this unfortunate state of affairs, the *Journal of the American Pharmaceutical Association* in its April issue says that the druggist's position has been pressed on him by force of circumstances "in which patent medicines represent his business necessities while the propaganda for rational prescribing represents his aspirations for better things and his strivings for a more professional, as well as a more profitable business." Recognizing that something must be done if pharmacists wish to retain the confidence both of the physician and of the public, and to keep their professional standing, the *Journal* recommends that the American Pharmaceutical Association appoint a council that shall stand in the same relation to "patent medicines" that the Council on Pharmacy and Chemistry of the American Medical Association stands in relation to proprietary medicines. As the drug journal puts it, the work of the council whose creation it suggests should be "to determine first of all whether there is or can be such a thing as a legitimate proprietary medicine ["patent medicine"] which a druggist can conscientiously recommend and sell to the general public, and whether on the whole the public is benefited or injured by the use of such ready-made medicines." If the council decides that there are "patent medicines" which the druggist may recommend and whose sale will benefit the public, its next work would be "to determine whether it is possible to draw a distinct line of demarcation between legitimate and illegitimate remedies. . . ." The growing distrust in the whole "patent medicine" business is such that it behooves our sister profession to rid itself of the stigma which the sale of worthless, and in many cases dangerous, preparations is bringing on an honorable profession. A council such as the editor of the *Journal of the American Pharmaceutical Association* recommends might do much toward this end. If it is brought into existence and does its work thoroughly and honestly, we can with a certain degree of accuracy prophesy what will happen: Some of the most vicious "patent medicines" will be driven off the market. Others less vicious but worthless will have their sales greatly curtailed. As a corollary of this, the American Pharmaceutical Association may expect organized opposition in the form, possibly, of a League for Pharmaceutical Freedom. The *Journal of the American Pharmaceutical Association* will be vilified by many, if not most, of the privately owned drug journals. And last, but not least, the editor of the *Journal* will become the center of an attack in which all the resources of blackguardism and billingsgate will be brought to bear in an attempt to besmirch and blacken his reputation. But the fight will be well worth while.

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[1] Van Slyke, D. D., and Meyer, G. M.: Distribution of Amino-Acids in the Body, Proc. Soc. Exper. Biol. and Med., 1912, x, 38. Van Slyke, D. D.: Protein Assimilation, abstr., THE JOURNAL A. M. A., April 12, 1913, p. 1183.

AN EARLY REFERENCE TO INFECTION CARRIERS

That healthy persons may be carriers of infection by the persistence and proliferation of the causal germs in the healthy human body has been known for fifteen or twenty years. The possibility of this kind of carrier of infection does not seem to have been at all familiar to our forefathers and yet the conception seems to be expressed quite clearly by Richard Mead,[1] the father of quarantine, when he says: "If there be any Contagious Distemper in the Ship: the *Sound* men should leave their cloaths, which should be burnt; the men washed and shaved; and having fresh Cloaths, should stay in *Lazaretto* thirty to forty days. The reason for this is, because Persons may be recovered from a Disease themselves and yet retain *matter* of *Infection* about them a considerable time." In these words are expressed a truth the significance of which was not clearly grasped until nearly two hundred years after they were written. Richard Mead is the author also of the following dictum which, besides its general application, has a very special meaning for the typhoid carrier: "As *nastiness* is a great source of *Infection,* so *cleanliness* is the greatest *Preventative.*"

THE POISON LABEL—A NEEDED AMENDMENT

For the purpose of safeguarding the public against the dangers of poisons, Mr. French of Idaho has introduced into the House of Representatives a proposed amendment to the federal Food and Drugs Act. The amendment which refers to the labels and containers of poisons declares that a drug shall be deemed misbranded:

> "If the contents of the package be a virulent poison and shall not be placed in a container labeled 'Poison' and shall not contain on the label at least one suitable antidote and the name of the person, firm or corporation dispensing the substances, and in the case of liquids, in addition thereto, said container shall be a colored glass roughened bottle of a type described by Secretary of the Treasury, the Secretary of Agriculture and the Secretary of Commerce."

Idaho is to be congratulated on having a representative whose solicitude for the public safety may be the means of strengthening the Food and Drugs Act. In the past it has been altogether too easy for careless or unscrupulous manufacturers to sell powerful drugs without giving the purchaser any hint as to the potency of the product he was buying. Another amendment should be made, or the proposed one modified, so as to protect the public still further. All "patent medicines" containing poisonous drugs should be required to be labeled "Poison." The protective action of such an amendment would soon be demonstrated. In Great Britain, where there is such a legal requirement, preparations like Winslow's Soothing Syrup, containing such insidious poisons as morphin, have to be labeled "Poison." As a result the Winslow concern has taken the morphin out of its British product and has substituted a drug that is not listed in the schedule of poisons. But Winslow's Soothing Syrup still goes to American babies with its deadly morphin. The value of the requirement lies in the fact that the word "Poison" has a very real and definite meaning to any person that reads English. The same cannot be said of the chemical names for various poisons. Thus the most ignorant of mothers would hesitate to give her child a "patent medicine" that was labeled "POISON," but she would pay little attention to the statement that it contained morphin, for instance. The weakness of the present federal law has been referred to many times. As the law now stands, "patent medicines" may go to the public containing such deadly poisons as strychnin, atropin, prussic acid, arsenic, etc., with no warning or hint of the presence of these drugs.

DEVELOPMENT BY LIMITATION IN MEDICAL EDUCATION

True development, vigorous and useful, in every phase of life and activity requires certain limitations or restrictions. Unrestricted expansion or growth often leads to a dissipation of energy and resources which amounts to degeneration. Streams are often rendered deeper, more navigable and therefore more useful by being confined in narrower channels. Fruit-trees are best developed and produce better fruit if by a careful pruning the life energies are retained in a smaller number of branches. Men in the professions or in other walks of life can do their best work by devoting themselves to certain special lines of work. So in medical education limitations are essential and, considering the vast oversupply of medical schools existing in this country a few years ago, the pruning process has resulted in an unquestioned improvement. In certain cities and in some states the energy and resources formerly dissipated among several separate medical colleges are now, through a merging of the schools, being concentrated into one. A few months ago[1] the Johns Hopkins Medical School fixed a limit to the number of students to be taken into each class in order that it might better train those it did enrol. A few years ago two state universities, those of Missouri and North Carolina, discontinued the clinical years of the medical course, believing that it was better to develop effectually the work of the first two years than to continue to give in an unsatisfactory manner the full four-year course. And now word has been received that the trustees of Dartmouth Medical School, the fourth oldest medical school in the United States, have voted to discontinue clinical teaching and the granting of the M.D. degree, recognizing that the limited hospital and dispensary material at Hanover is no longer adequate to furnish modern physicians with a satisfactory clinical training. Such action as this is necessarily drastic, especially in an institution which has granted medical degrees year after year for more than a century; but the decision is characteristic of institutions like Dartmouth, which have at heart not only the interests of education and of the students individually, but also the welfare of the public. That medical education at Dartmouth will be bettered is certain, since the resources formerly expended in a four-year course will hereafter all be used to develop the equipment and teaching of the laboratory subjects. With its entrance requirements of two or more years of collegiate work all the medical students will leave Dartmouth holding baccalaureate degrees, and will therefore be alumni of that institution, even though the medical degree is no longer granted. These men will carry with them credentials of having taken two years of medical work. With the further development of the equipment of the teaching and of research — and in this respect Dartmouth has an exceptional opportunity — the medical credentials held by these students will undoubtedly make them eligible to complete their medical courses in any of the best medical schools where ample clinical facilities are available. This action by the trustees of Dartmouth College furnishes another example of the magnificent decisions which, in the last few years, have marked the campaign for better-trained physicians in this country.

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[1] Mead, Richard: Short Discourse concerning Pestilential Contagion and the Method to be Used to Prevent It, ed. 7, London, 1721, p. 22. In this and the following quotation the italics are in the original.

[1] Limiting Enrolments in Medical Schools, Current Comment, THE JOURNAL A. M. A., Oct. 26, 1912, p. 1550.

Medical News

COLORADO

State Board Notes.—At the annual meeting of the State Board of Health, April 28, Dr. Sherman Williams, Denver, was elected president; Dr. Jacob Campbell, Boulder, vice-president; Dr. Paul S. Hunter, Denver, secretary, and Dr. Crum Epler, Pueblo, treasurer.——The State Board of Health has voted unanimously to request the governor to veto the lying-in hospital bill recently enacted by the legislature.——Dr. Frank E. Rogers, Denver, has been appointed a member of the Colorado State Board of Medical Examiners.

Protests of Denver Physicians.—At a meeting of Denver physicians, April 30, a committee was named to prepare resolutions protesting against the election of a layman as head of the Department of Social Welfare. Dr. Aubrey H. Williams was made chairman of the committee.——Many Denver physicians are preparing to enter a vigorous protest against the adoption of a charter amendment, May 21, which, it is alleged, would place the health department of Denver under the control of the Medical Department of the State University.

DISTRICT OF COLUMBIA

Personal.—Dr. Erwin F. Smith, plant pathologist in the Department of Agriculture, is said to have declined a position with the Rockefeller Institute for Medical Research at a salary at more than double that which he receives from the government.——Dr. Eva C. Reid of the medical staff of St. Elizabeth's Hospital for the Insane, has resigned, to accept a similar position in the State Hospital at Talmage, Cal.

Eye, Ear and Throat Hospital Opened.—The Washington Eye, Ear and Throat Hospital is now open at 4 Iowa Circle, with the following medical staff: surgeon in chief, Dr. Oscar Wilkinson; assistants, Drs. T. F. Wickliffe, I. P. Hunt and S. B. Pole; consulting surgeons, Drs. W. P. Carr, C. S. White and H. L. Taylor; consulting physicians, Drs. Philip Roy, William Barton, C. R. Luce and O. H. Coumbe; anesthetists, Drs. Thomas F. Lowe and I. P. Hunt.

ILLINOIS

New Officers.—Livingston County Medical Society, twenty-fifth semi-annual meeting at Pontiac, May 1: president, Dr. B. F. Elfrink, Chenoa; secretary-treasurer, Dr. John Ross, Pontiac.

Personal.—Dr. M. E. McGann, Joliet, is reported to be seriously ill.——Dr. F. W. Wilcox, Minonk, who was operated on recently for appendicitis in Chicago, has returned home and resumed practice.——Dr. W. C. Bridge, Elgin, sailed for Europe, May 3.——Dr. and Mrs. J. W. Spear, Mason City, have returned from a trip to Cuba and the Isle of Pines.

Recommends Inspection and Supervision of Hospitals.—The State Charities Commission in its third annual report, recommends state inspection and supervision of hospitals and sanatoriums of every character which receive sick persons for treatment, and urges the public to take a sympathetic and humane interest in the state charitable institutions and in all questions relating to them.——The commission also voices its opposition to the system of fining, as practiced throughout Illinois. It believes it to be wrong to fine the head of a family for misdemeanor and take from him that which should go to his family for their support. Fines so levied should be collected and paid over to the family for its support, and while the offender is held a prisoner, he should be compelled to work and his earnings should be delivered to his family.

More Eligibles for County Institution.—The following additional list of those eligible for positions on the attending staff of Cook County Hospital has been announced: department of tuberculosis, Drs. William J. Butler and Arthur F. Beifeld; department of skin and venereal diseases—Drs. Frank Edward Simpson and Edward G. Harnes; department of gynecology—Drs. Bertha Van Hoosen, Channing W. Barrett, Carey Culbertson, Herbert M. Stowe, Frank M. Lynch, Franklin H. Martin, Arthur H. Curtis, Samuel L. Weber, Henry F. Lewis, Ernst Saurenhaus, Sidney Klein, W. A. Newman Dorland, Edward L. Moorhead, Noble S. Heaney, George de Tarnowsky, Henry Schmitz, Alfred J. Willits, G. Schmauch; department of obstetrics—Drs. Herman Marion Stowe, Henry F. Lewis, William George Leo, David S. Hillis, W. A. N. Dorland, Carey Culbertson and Otto H. Rohelack; department of eye—Drs. Edward V. Brown, George F. Suker and Jacob W. Clark; department of surgery—Drs. A. Belcham Keyes and Charles E. Humiston.

Chicago

Personal.—Dr. Robert B. Preble, who was attacked with appendicitis while en route to Washington, May 5, was operated on in George Washington University Hospital the next day and returned to Chicago, May 11.——Dr. Frances Dickinson has been elected president of the Arts-Crafts Institute Guild.——Dr. Charles F. Sanborn has been appointed assistant warden of the County Hospital and assumed his duties, May 9.——Dr. John A. Hornsby, formerly superintendent of Michael Reese Hospital, has been appointed county hospital efficiency expert and will advise with the county board and county architect in matters concerning the plans for the new Cook County Hospital and other hospitals to be erected by the county.——Dr. Frank S. Johnson has been elected president and Dr. S. C. Stanton secretary of the Physicians' Club of Chicago.——Dr. Dean D. Lewis is on a trip to the Southwest, including attendance at the meeting of the Arizona State Medical Association.

KANSAS

New Officers.—McPherson County Medical Society organized at McPherson, May 2: president, Dr. L. A. Bradbury, Galva; secretary, Dr. G. R. Dean, McPherson.——Atchison County Medical Society, reorganized, May 5, at Atchison: president, Dr. M. T. Dingess; secretary-treasurer, Dr. E. T. Shelly, both of Atchison.

State Society Meeting.—The forty-seventh annual meeting of the Kansas Medical Society was held in Topeka, May 7-8, and the following officers were elected: president, Dr. M. F. Jarrett, Fort Scott; vice-presidents, Drs. C. C. Nesselrode, Kansas City; J. F. Gsell, Wichita, and G. A. Blasdel, Garnett; secretary, Dr. Charles S. Huffman, Columbus (reelected); treasurer, Dr. L. H. Munn, Topeka (reelected); councilors—second district, Dr. H. B. Caffey, Pittsburg; sixth district—Dr. Archibald D. Jones, Wichita; tenth district — Dr. D. R. Stoner, Quinter; eleventh district—Dr. J. A. Dillon, Larned; twelfth district—Dr. W. F. Fee, Meade, and delegate to the American Medical Association, Dr. George M. Gray, Kansas City. Wichita was selected as the next place of meeting.

MARYLAND

New Hospitals.—Ground will be broken very soon for an emergency hospital at Easton to be constructed of reinforced concrete, brick and stone, with a central building and wings. ——Plans have been prepared for a new building for the treatment of tuberculous patients at the Springfield State Hospital, Sykesville. It is to be two and one-half stories in height, 67 by 97 feet, and of brick and concrete construction.

Anniversary of Sheppard and Enoch Pratt Hospital.—The sixtieth anniversary of the granting of the charter to the trustees of the Sheppard Asylum, Towson, by the legislature of Maryland, May, 1853, was celebrated at the Enoch Pratt Hospital, May 8-10. On the first day, the address of welcome was given, followed by a historical address by Dr. Edward N. Brush; an address on "The Present Position of the Asylum as an Educational Factor in Medicine," by Dr. Edward D. Fisher, New York City, and a paper on "The Work of the Hospital" by Dr. William Rush Dunton, Jr., Towson. After inspection of the hospital, a buffet luncheon was served at the Casino at 6:15 p. m. and in the evening, an address was delivered by Dr. Adolf Meyer, director of the Phipps Psychiatric Clinic, followed by papers by former members of the staff. On the evening of the second day the principal address on "The Transition of American Psychiatry from the Asylum to the Hospital," was delivered by Dr. Edward Cowles, Boston, followed by five papers on technical subjects by former members of the staff. The third day was devoted to a bazaar for the sale of work of the handicraft classes and to field sports.

Baltimore

Psychiatric Clinic Opened.—The Phipps Psychiatric Clinic of Johns Hopkins Hospital opened for the reception of patients, May 1.

Personal.—Dr. Thomas P. Sprunt of Johns Hopkins University has been appointed professor of pathology in the graduate school of medicine of the University of Alabama, Mobile.——Dr. Arthur Wegefarth fractured his leg near the ankle while boarding a street car, May 6.

Club Inspects Clinic.—Under the escort of Dr. Adolf Meyer, the Interurban Clinical Club opened its seventeenth annual meeting by going over the new Phipps Psychiatric clinic building at Johns Hopkins Hospital, May 2. After inspection of the clinic and the reading of papers, luncheon was served at 1 o'clock, after which the club went into session for the afternoon and in the evening dined at the Maryland Club.

Faculty Members Promoted.—The following members of the adjunct faculty of the University of Maryland School of Medicine have been advanced to professional rank: Dr. Thomas C. Gilchrist, dermatology; Dr. Frank Martin, operative and clinical surgery; Dr. J. Mason Hundley, clinical gynecology; Dr. Joseph T. Smith, hygiene and medical jurisprudence; Dr. St. Clair Spruill, clinical surgery; Dr. R. Tunstall Taylor, orthopedic surgery; Dr. John R. Winslow, laryngology and rhinology; Dr. James M. Craighill, clinical medicine; Dr. Joseph E. Gichner, clinical medicine and physical therapeutics; Dr. Charles W. McElfresh, clinical medicine; Dr. Irving J. Spear, neurology; Dr. Gideon Timberlake, genito-urinary diseases; Dr. John G. Jay, clinical surgery; Dr. Nathan Winslow, clinical surgery; Dr. Page Edmunds, clinical genito-urinary diseases; Dr. Richard H. Johnston, clinical laryngology and rhinology and Dr. William Tarun, associate professor of ophthalmology and otology.

MASSACHUSETTS

Personal.—Dr. Charles F. Painter has been elected dean of Tufts College Medical and Dental schools, vice Dr. Harold Williams, retired.

Contagious Disease Hospital for Boston.—The finance commission has recommended that the city council appropriate $297,800 for the erection of a new building on the Payne property site to accommodate two hundred cases of contagious disease.

New Officers.—Dorchester Medical Society, May 1: president, Dr. Edward J. Brearton; secretary-treasurer, Dr. J. T. Kendricken.——North Essex District Medical Society at Lawrence: president, Dr. F. W. Anthony, Haverhill; secretary-treasurer, Dr. J. Forrest Burnham, Lawrence.

Evening Eye Clinic.—The first evening eye clinic in Boston was recently opened at the Boston Dispensary. About forty patients appeared on the first evening, all of whom were working people who were unable to attend a clinic during the day. Dr. Edward Hartshorn is in charge of the clinic.

Seeks Anti-Cancer Fund.—Dr. William Duane, for six years radium research assistant at the Currie Laboratory, Paris, has been secured by the Harvard Medical School to organize for the Harvard Cancer Commission, a laboratory in which cancer may be studied from the point of view of the physicist. The university requires $250,000 for the establishment of this laboratory. For the present, experiments will be conducted in the Collis P. Huntington Building.

Conference Medical Committee Appointed.—To solve problems arising in connection with the workmen's compensation act, and especially the question of reasonable allowance for compensation for medical and hospital services, the following committee has been appointed to confer with the State Industrial Accident Board: Drs. Frederick J. Cotton, Francis D. Donoghue, Frank E. Allard and William H. Ruddick, Boston; F. W. Anthony, Haverhill; Samuel E. Fletcher, Chicopee, and Samuel H. Calderwood, Roxbury.

Septic Sore Throat in Canton.—Under date of May 10 it was reported that nearly 400 of the 3,000 inhabitants of Canton were afflicted with epidemic septic sore throat, with ten deaths. Pneumonia, erysipelas and scarlet fever as complications have been frequent during the epidemic. The disease is believed to have originated from the milk of one of the principal dairies supplying the town, cases of sore throat having occurred in the family of the dairyman on whose route nearly all the cases have occurred. Daily inspection of dairies has been instituted, milk is required to be pasteurized and the sterilization of containers of milk is enjoined. The public schools and the public library have been closed and other precautionary measures have been adopted.

Tropical Medicine Expedition.—Dr. R. P. Strong, professor of tropical medicine; Dr. E. E. Tyzzer, assistant professor of pathology and director of the Harvard Cancer Commission; and Mr. O. T. Brues, instructor in entomology, comprise a commission which sailed from New York, April 30, for a five months' tour of investigation and study on behalf of the Department of Tropical Medicine of Harvard Medical School. The first object of the expedition is to obtain material and specimens for the department, and Guayaquil, Ecuador, has been selected as the objective point because it is a hotbed for tropical diseases. The second object of the expedition is to study verruca peruviana. The expedition will obtain fresh material on various tropical diseases and, on the way to and from Peru, will inspect important hospitals on the Isthmus of Panama and elsewhere.

MICHIGAN

Tuberculosis Exhibit.—The Detroit Society for the Study and Prevention of Tuberculosis of which Dr. H. M. Rich is vice-president, is holding an exhibit in the new Dime Savings Bank Building which is attracting great interest.

New Registration Board.—The governor has appointed the following as members of the State Board of Registration in Medicine: Drs. G. W. Nafe, Fremont; Albertus Nyland, Grand Rapids; George Le Fevre, Muskegon; W. T. Dodge, Big Rapids, and C. B. Burr, Flint.

NEW HAMPSHIRE

Commencement at Dartmouth.—At the commencement exercises of Dartmouth College, April 25, the degree of doctor of medicine was conferred on a class of ten.

Personal.—Dr. J. E. Reynolds, superintendent of the New Hampshire Tuberculosis Hospital, has been appointed superintendent of the Bonnie Burn Sanatorium, Scotch Plains, Elizabeth, N. J.

School Suspends Clinical Teaching.—Word from Dartmouth College states that at a meeting of the board of trustees held April 26, it was voted to suspend the granting of the degree of doctor of medicine after the graduation of the class of 1914.

All the energies and finances available for the medical school will be hereafter spent in developing the work of the first two years. Dartmouth Medical School was the fourth medical college organized in the United States, having been established in 1797.

NEW YORK

New Officers.—Buffalo Medical and Surgical League, April 8: president, Dr. Julius Richter; secretary, Dr. Frank C. Kleckner.

Home for Public Health Association.—A committee consisting of Drs. John M. Lee, Montgomery E. Leary and Henry T. Williams has purchased the Robey homestead, Rochester, for a home for the Rochester Public Health Association, at a cost of $12,000.

Hospital News.—Several thousand dollars have been raised for the new Benedictine Hospital to be erected in Innis Avenue, Poughkeepsie.——A free dispensary for tuberculosis is to be opened in the Ashley Building, Lockport, $2,000 having been appropriated by the city council for this purpose.

Personal.—Dr. Frank E. Howard, Friendship, was operated on at St. James' Mercy Hospital, Hornell, for appendicitis, May 7.——Dr. John F. Dwyer has been appointed assistant surgeon of the New York Central system at Corning, vice Dr. Thomas Foley, resigned.——Dr. Francis J. Lennon, Buffalo, has been appointed medical director of the Tuberculosis Dispensary and Dr. Nelson W. Strohm, assistant medical director.

New York City

Personal.—Dr. Ira S. Wile has resigned as conference physician of the Riverside Kitchen of the New York Diet Kitchen.——Dr. Linsly Rudd Williams, New York City, has been appointed State Health Commissioner to succeed Dr. Eugene H. Porter. The salary of the commissioner has been increased to $10,000 a year.

Warned of Final Clean Up.—Commissioner Lederle has announced that the final stage of the spring clean up will be begun May 12 and will continue each day until May 16. Seven hundred thousand folders printed in four languages have been sent to householders throughout the city. The commissioner is firmly convinced that this campaign of sanitation and education will result in a marked decrease in the infant mortality this summer.

Memorial for Dr. Morrow.—A meeting to commemorate the life and work of the late Dr. Prince A. Morrow will be held by the Society of Sanitary and Moral Prophylaxis at the Academy of Medicine, May 22. Dr. Edward B. Bronson will speak on "Dr. Morrow, the Physician;" Dr. Edward L. Keyes, on "Dr. Morrow, the Educator;" William A. Purrington on "Dr. Morrow, the Philanthropist;" Rev. John P. Peters on "Dr. Morrow's Work in Uplifting," and Dr. Charles W. Eliot on "The Pioneer Qualities of Dr. Morrow as a Social Reformer."

Boys Take Health Pledges.—The schoolboys of this city have been asked to sign a pledge which is to remain in force until June 6 that they will abstain from using cheap candies, unwholesome pies, greasy pastry and soda water flavored with highly colored syrups. The request came from the Public School Athletic League and promises as a reward that the boys who keep this pledge will excel in the athletic contests to be held in Central Park on June 6. The boys are furnished a special hygienic program arranged by Dr. G. Ward Crampton.

Appointments at the College of Physicians and Surgeons.—The trustees of Columbia University have appointed Dr. Hans Zinsser to the chair of bacteriology made vacant by the death of Professor Hiss. Drs. Walton Martin and H. H. M. Lyle were appointed professors of clinical surgery; Dr. Frank C. Matthews and Dr. William A. Downes were appointed assistant professors of clinical surgery; Dr. C. C. Leib was made assistant professor of pharmacology; Drs. James Alexander Miller and Austin W. Hollis, were appointed professors of clinical medicine; and Drs. Lewis F. Frissell and T. Stewart Hart, assistant professors of clinical medicine.

NORTH DAKOTA

New State Board Members.—The following have been appointed members of the State Board of Medical Examiners: Drs. G. M. Williamson, Grand Forks; Albert W. Skelsey, Fargo, and Francis Peake, Jamestown.

State Society Meeting.—The twenty-sixth annual meeting of the North Dakota State Medical Association was held at Minot, May 7 and 8. Grand Forks was selected as the next meeting place, and the following officers were elected: president, Dr. Murdock MacGregor, Fargo; vice-presidents, Drs. R. Hudson Beek, Lakota; Victor H. Stickney, Dickinson, and Andrew Carr, Minot; secretary, Dr. H. J. Rowe, Casselton (reelected); treasurer, Dr. Charles S. Crane, Grand Forks; delegate to the American Medical Association, Dr. James Grassick, Grand Forks, and alternate, Dr. Blake McK. Lancaster, Crosby.

OHIO

Physicians' Building for Cleveland.—A twelve-story structure is projected at Cleveland, intended for the exclusive use of physicians. It is to be located on Euclid Avenue, near the Fuller Hotel.

Alumni Contribute to Relief Fund.—Dr. M. H. Urner, secretary of the Ohio-Miami Alumni Association, reports that $600 has been subscribed by members of the association for the relief of physicians who suffered in the recent floods.

Women's Hospital Established.—The Women's and Children's Hospital, Maternity and Dispensary has been organized in Cleveland by the Women's Hospital Association. The president of the association is Dr. Martha A. Canfield and Dr. Josephine M. Danforth is secretary. A training school for nurses is to be operated in connection with the hospital and the social service system is to be inaugurated.

University Medical School Probable.—A bill recently passed by the state legislature makes possible the merger of the Starling-Ohio Medical College and College of Dentistry, Columbus, with the Ohio State University. The building of the medical college is said to be valued at $300,000. It is free from debt and has been offered to the trustees of the university. The merger will probably take place within a year.

Personal.—Dr. A. Luther Pomeroy, Windsor, was the guest of honor at the Ashtabula County Medical Society, May 6. Dr. Pomeroy has practiced in the county for sixty-seven years.——Dr. D. B. B. Conklin has been elected president pro tem of the Board of Health of Dayton.——A number of physicians of Columbus were invited by Eugene F. McCampbell, secretary of the State Board of Health, April 27, to meet Maj. Thomas L. Rhoads, M. C., U. S. Army, who has been in charge of the sanitation work in Dayton, following the recent flood. Major Rhoads was also entertained at a farewell dinner at Dayton, April 26.

Hospital Staff Appointed.—Newark Hospital Association announces the appointment of the following medical staff for the ensuing year: chief of staff, Dr. W. S. Turner; surgeons, Drs. C. H. Stimson, A. J. Mitchell, U. K. Essington, W. H. Knauss and H. J. Davis; visiting physicians, Drs. W. C. Rank, W. B. Nye, H. H. Postle, J. T. Harbottle, J. P. H. Stedem, J. W. Barker and George N. Brown; consulting physicians, Drs. Carl E. Evans, H. D. Rank, J. N. Wright, Jr., H. E. Hunt, J. P. Latimer, S. D. McClure and C. J. Loveless; pediatrists, Dr. W. J. Kennedy, and diseases of the eye, ear, nose and throat, Drs. C. B. Hatch, C. S. Morse and D. J. Price.

Cincinnati

Gives Library to Hospital.—Dr. B. Merrill Ricketts, first house surgeon of the New York Skin and Cancer Hospital, has given a library of 5,000 books and 10,000 monographs to that institution.

New Medical College Building.—At a meeting of the faculty of the Ohio-Miami Medical College, May 1, Drs. C. R. Holmes, H. M. Knower, Martin Fischer, Edward Reemelin and Dr. Julius Eichberg were appointed a committee to devise ways and means for the erection of a building for a new medical college on Eden Avenue, nearly opposite the new city hospital and on the hospital grounds. The building is expected to cost $250,000 and to accommodate about two hundred students. The intention is that this building shall be a memorial to Dr. Daniel Drake, the father of medicine in Ohio.

OKLAHOMA

New Society.—The Northeast Oklahoma Medical Society was organized at Tulsa, April 29. Ottawa, Delaware, Craig, Mayes, Nowata, Rogers, Tulsa and Washington Counties are included in the territory of this society. The following officers were elected: president, Dr. G. H. Butler, Jr., Tulsa; secretary, Dr. J. V. Athey, Bartlesville, and treasurer, Dr. W. A. Howard, Chelsea. The next meeting will be held in October in Bartlesville.

OREGON

Class Anniversary.—The sixth anniversary of the class of 1907 of the Medical Department of the University of Oregon, was celebrated by a dinner at the Hotel Oregon, April 29, at which ten of the twenty graduates were present. Preliminary arrangements were made to organize an alumni association.

PENNSYLVANIA

New Officers.—College of Physicians of Pittsburgh, May 8: president, Dr. Edward Stieren; secretary, Dr. G. A. Holliday.

Alumni to Meet in Harrisburg.—On May 6, Jefferson Medical College alumni of Northumberland, Adams, Dauphin, Cumberland, Franklin, Lancaster, Perry and York counties assembled in Harrisburg, where an all-day clinic was held, and the Southern Chapter of the Jefferson Medical College Alumni Association was organized.

Councilman in Easton.—Dr. W. T. Councilman of Harvard Medical School delivered a lecture in the auditorium of the Easton Public Library, April 29, on "The Nature of Disease." This meeting was arranged through the Speakers' Bureau of the Council on Health and Public Instruction of the American Medical Association.

Typhoid Vaccine for Guardsmen.—On May 8, Adjutant-General Stewart sent an order to local commanders of the three regiments embraced in the First Brigade and of the First Squadron of Cavalry, that every member of the National Guard of Pennsylvania must submit to inoculation with antityphoid *serum* before the annual encampments.

Tuberculosis Hospital in Progress.—Plans have been prepared for the new tuberculosis hospital for Pittsburgh on the Leach Farm in the Highland Park district. Two ordinances have been passed, one authorizing the completion of the specifications and drawings, and the second authorizing advertisements for bids and the letting of the contract.

Dinner to Dr. Kelly.—The members of the Lackawanna County Medical Society gave a banquet, April 19, at Scranton, in honor of Dr. Howard A. Kelly, Baltimore. At the meeting of the society, Dr. Kelly spoke on "The Power and Useful Influence of Radium," and on the following evening delivered a lecture at the Y. M. C. A. Auditorium on "The Social Evil."

Personal.—Dr. J. W. Geist, Wilkes-Barre, has been appointed local surgeon for the Lehigh and Wilkes-Barre Coal Company, vice Dr. Frank L. McKee, deceased.——Dr. E. A. Gerberich, Shamokin, is suffering with neuritis of the leg which has incapacitated him from work for the last two months.——Dr. Henry C. Bartleson, Lansdowne, is reported to be seriously ill in the Presbyterian Hospital, Philadelphia.

Philadelphia

New Officers.—Physician's Motor Club: president, Dr. J. J. Robrecht; secretary, Dr. H. A. Sutton.

Baby Clinics in a Church.—Beginning May 13, clinics will be held every Tuesday afternoon in St. Stephen's Church, Germantown. The clinics will be free and two nurses will be present to assist.

Hospital Building Free of Debt.—On April 16 a check for $25,000 was received for the completion of the new hospital building of the Woman's Medical College, near College Avenue and Twenty-First Street. This donation leaves the building free from debt.

Reception to Newly-Elected Professors.—The Medical College of Philadelphia gave a reception April 30, at the Bellevue-Stratford Hotel in honor of Drs. Thomas McCrae and Philip B. Hawk, newly-elected members of the faculty of Jefferson Medical College.

Personal.—Dr. Ignazio Cortese was exonerated April 30 on charges made by a patient's husband regarding treatment given in an obstetric case.——Dr. Herbert J. Baldwin on April 28 was exonerated of any blame in the death of a colored child who was knocked down and killed by Dr. Baldwin's automobile, April 24.

New Surgical Pavilion.—The new surgical pavilion to be erected at Thirty-Fourth and Spruce Streets in accordance with plans for the rebuilding of the entire hospital group of the University of Pennsylvania, is to be five stories and a basement in height, with an eventual addition of four stories. On the ground floor the x-ray department is to be located and also the gymnasium and orthopedic department. On the second and third floors, surgical wards will be established, with accommodation for seventy-five patients, with the necessary dressing rooms, preparation rooms, etc. On the fourth and fifth floors three operating rooms will be provided, each seating from twenty-five to thirty-five and having anesthetizing rooms connected with each, and above these floors will be a roof garden. The entire building is in the Jacobean style.

Phipps Institute Dedicated.—The magnificent new building of the Henry Phipps Institute at Seventh and Lombard Streets, was dedicated, May 10. Dr. Edgar F. Smith, provost of the University of Pennsylvania, presided. A historical sketch of the institute prior to its connection with the university was given by Dr. Lawrence F. Flick. The principal address was made by Dr. Hermann M. Biggs, New York City, who reviewed the tuberculosis situation and offered suggestions as to future activities and influence of the institute. One of the features of the ceremonies was the presentation of the degree of doctor of laws to Mr. Phipps, who has given about $1,000,000 for the erection of the institute, and who sets aside $50,000 each year for its support. A similar honor was conferred on Dr. Edward L. Trudeau, who in 1884 founded the Adirondack Cottage Sanitarium. Mr. Phipps and the trustees of the university gave a dinner to the distinguished guests at the Bellevue-Stratford in the evening at which Dr. J. William White was the toastmaster.

TEXAS

Sanitation at Texas City.—Congress is to be asked for a special appropriation of $100,000 for sanitation, drainage and screening of the quarters of the division of troops now encamped at Texas City.

League will Build Sanatorium.—The Houston Antituberculosis League announces that within the next two months it will erect a joint county and city tuberculosis clinic. The structure will be of the bungalow type, with five large and a number of small rooms, with abundant porches, sterilizing rooms, etc.

New Hospitals.—The contagious disease annex to the John Sealy Hospital, Galveston, has been completed and is in active service.——The Walter Colquitt Memorial Hospital for Tuberculous Children which is practically completed and is now being furnished by the Adoue Seamen's Bethel, given by the family of the late Mr. Adoue, will be opened about May 15.

Personal.—Dr. Robert Boyd, Weatherford, was operated on at Hillcrest Sanitarium for appendicitis, recently, and is said to be doing well.——Dr. J. P. Simonds, Galveston, who recently completed a sanitary survey of Galveston, is conducting a similar work in Beaumont.——The office of Dr. Albert O. Menefee, Tatum, was burned April 19, with a loss of about $1,000.

Honor to Ross and Gorgas.—At the annual meeting of the State Medical Association of Texas, San Antonio, resolutions were introduced by Dr. Albert Woldert, Tyler, setting forth the service rendered humanity by Dr. Donald Ross, Liverpool, England, who discovered the true method of conveyance of malarial fever from the sick to the well and on whose discoveries was based the demonstration of the true method of the conveyance of yellow fever made by the United States Army Commission; and the services of Col. William C. Gorgas, M. C., U. S. Army, in the Panama Canal Zone, by putting in force and using the measures necessary totally to eradicate yellow fever and other tropical diseases in the Canal Zone; and recommending that a committee of seventeen members consisting of the president, secretary, and board of councillors be appointed to be known as the Ross and Gorgas Commemorative Committee, to enlist interest and support, and to solicit subscriptions for a fund to have erected monuments in the Canal Zone or other testimonials commemorative of the services of Drs. Ross and Gorgas.

VIRGINIA

New Officers.—South Piedmont Medical Society at Danville, April 15: president, Dr. James Morrison, Lynchburg; secretary, Dr. George A. Stover, South Boston.

Painter in Richmond.—Under the auspices of the Board of Charities and Correction, Dr. Charles F. Painter, Boston, delivered a lecture at the Mechanic Institute on "The Treatment and Training of Crippled and Deformed Children."

Site for New Hospital.—The Johnston-Willis Sanatorium has purchased for $40,000, the lot and residence once occupied by Dr. Charles M. Shields at Fifth and Franklin Streets, Richmond, and within the next year expects to erect a hospital building as an annex to the present hospital at Sixth and Franklin Streets.

GENERAL

Gorgas Returns to the United States.—Colonel William C. Gorgas, M. C., U. S. Army, chief sanitary officer of the Canal Zone, arrived in New Orleans, April 30, on his way to Washington. He expects to spend several weeks in the United States before his return to his post.

Fighting Food Frauds.—The Eastchester Health League has opened a pure food show at Bronxville and is pushing a campaign against food adulterations. They hope to teach adulterators to keep their ware out of Bronxville and the vicinity. Both the federal and state governments have prepared exhibits.

Pediatrists Elect.—The American Pediatric Society, at its annual meeting in Washington, D. C., May 5-7, elected the following officers: president, Dr. Samuel M. Hamill, Philadelphia; vice-president, Dr. Matthias Nicoll, New York City; secretary, Dr. Samuel S. Adams, Washington, D. C.; treasurer, Dr. C. H. Dunn, Boston, and editor and recorder, Dr. Linnaeus E. LaFetra, New York City. The place of meeting for 1914 will be New London, Conn.

New Dermatologic Officers.—At the thirty-seventh annual meeting of the American Dermatological Association, held in Washington, D. C., May 6 and 8, the following officers were elected: president, Dr. James McFarlane Winfield, Brooklyn; vice-president, Dr. S. Pollitzer, New York City; secretary and treasurer, Dr. Oliver S. Ormsby, Chicago, and member of council, Dr. William A. Pusey, Chicago. Chicago was selected as the next place of meeting.

Anglo-American Medical Association.—At the annual meeting of the Anglo-American Medical Association of Berlin, the following officers were elected: president, Dr. L. D. Green, San Francisco; vice-president, Dr. Carl C. Franklin, New York City; secretary, Dr. George A. Lassman, Baltimore, and treasurer, Dr. Samuel Zielouka, Cincinnati. Any member of the medical profession in good standing is eligible to membership, the dues being fifteen marks.

Railway Surgeons' Meeting.—At the annual meeting of the Association of Railroad Chief Surgeons in Chicago, May 6, Dr. W. H. Bohart, C. &. E. I. Railway, was elected president; Dr. Guy G. Dowdall, Illinois Central, Chicago, vice-president, and Dr. L. J. Mitchell, editor of the *Railway Surgical Journal*, secretary, all of Chicago. A committee was appointed to cooperate with the committee of the American Medical Association concerning the promotion of public health and railway sanitation. It was also decided to seek the cooperation of state boards of health and health officers in various localities, in order to obtain supplies of better water and ice on railway trains.

Medical Museum Association.—An informal business meeting of the International Association of Medical Museums was held at the Army Medical School, Washington, D. C., May 5, Dr. A. S. Warthin, Ann Arbor, in the chair. The meeting was called first, to discuss the organization of a local American section in the international body and the perfecting of the organization of the association as a whole on the international basis. It was reported that a sectional society had already been organized as a branch at Frankfort-on-the-Main, Germany, under the directorship of Prof. B. Fischer of the Seckenberg Institute, known as the "Verein zum Austauch anatomischer Praeparaten." Steps have also been taken to establish local secretaries in France, Belgium and England, the Seckenberg Institute remaining as a central European Bureau of Exchange. The second object of the meeting was the making of preparations for the coming of the triennial international meeting to be held in conjunction with the Seventeenth International Congress of Medicine in London, Eng., August 6-13, and the secretary was directed to communicate with the members from various countries suggesting the formation of sectional societies or committees under control of the main body, and requesting each nationality to send representatives to the meeting to be held in London, there to discuss, formulate and establish the mechanism of government of the international association and of its sectional societies. The third order of business was the report of the committee on the organization of a central bureau for North America for the preservation of results of original research. Dr. Leo Loeb, St. Louis, announced that the committee had selected McGill University, Montreal, as the most suitable locality for the new substation and that Dr. Maude E. Abbott had offered her services as curator. The association approved these arrangements and the secretary was asked to write to the leading American investigators in medical research requesting them, after the completion of a given research, to send their material to McGill University, where it will be preserved, catalogued, indexed and at all times available for reference.

American College of Surgeons.—The organization of this society at Washington was briefly noted in THE JOURNAL May 10, 1913, page 1471, with the list of officers elected. The committee charged with the arrangements made a list of about five hundred surgeons of all specialties, from the large cities, the important universities, the special and general surgical societies, the important surgical clinics and hospitals, besides many independent surgeons from various parts of North America, and of these five hundred some three hundred were present to become founders of the organization. It was decided that all these five hundred should be fellows of the College of Surgeons without further formality. Others, whose surgeonship can be unquestionably approved by the committee on credentials, are to be accredited fellows without the formality of an examination. Fellows are divided, for the purpose of classification, into four groups, to be designated Classes A, B, C and D. Class A shall consist of the founders. Class B shall consist of the members of the special surgical societies constituting the Congress of American Physicians and Surgeons, and one hundred each, nominated by an accredited committee, from the Section on Surgery of the American Medical Association, from the Section on Obstetrics, Gynecology and Abdominal Surgery of the American Medical Association, from the General Surgical Section of the Clinical Congress of Surgeons of North America, from the Surgical Specialties of the Clinical Congress of North America, from the American Association of Obstetricians and Gynecologists, from the Canadian Medical Association, from the Southern Surgical and Gynecological Association, and from the Western Surgical Association. Class A shall consist of surgeons of prominence of ten years in the practice of surgery or a surgical specialty who, in the opinion of the committee on credentials, are eligible for fellowship in the college without formal examination. Class D shall consist of surgeons who cannot, in the opinion of the regents, be classified under A, B or C, and for whom the college must establish an examination or other evidence of acceptable qualifications. Fellows will be admitted only to classes A, B and C until the boards of regents and governors agree on standards of requirements for Class D at a meeting to be called in Chicago, November, 1913.

FOREIGN

International Congress on Medical Climatology and Hydrology and on Geology.—The ninth international gathering to discuss questions connected with the treatment and prevention of disease by mineral waters, climatic and meteorologic factors, is to be held at Madrid, Oct. 15-22, 1913. M. O. Leighton and J. C. Stevens of the Geological Survey are mentioned as official delegates from this country. The secretary's address is Encarnacion 10, principal, Madrid, Spain.

Death of Calleja.—The death is reported from Madrid of Professor Julian Calleja y Sanchez, dean of the medical department of the University of Madrid, and president of the Real Academia de Medicina. He presided over the meetings of the International Medical Congress held at Madrid in 1903. His chair in the medical faculty was that of descriptive anatomy and embryology, and he has always been a zealous worker to elevate the standards of medical education and preventive medicine.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, April 25, 1913.

Wounds in the Balkan Campaign More Serious than at First Supposed

Medical Inspector-General Delorme of the military health service drew further conclusions from the campaign in Thrace, at the Académie de médecine, April 22, dwelling in particular on wounds received in battle. He pointed out that the effects of the Bulgarian bayonet, which is short and broad, were terrible. As to bullet wounds, so many slightly wounded soldiers were seen in the convoys near the battle-fields, or from among those who had been removed from the field to the hospitals in the rear, that military correspondents and many surgeons received the impression that bullet wounds in this campaign were uniformly slight.

According to Delorme, this impression was not correct. Bullets from the rifles now used cannot produce invariably slight lesions, except in the region traversed. The lesions are simple, benign, severe or very grave according as the projectile comes from a distance or close at hand. All degrees of injuries can be made by the same sort of projectile in the same battle; it is a question of velocity and range. Explosive effects have been observed from bullets fired at short range; wounds made at intermediate distances have been severe, especially when the diaphyses of the long bones have been hit. At greater distances the wounds are correspondingly light. In the Thracian campaign the most effective ranges for the Bulgarians have been the short and the intermediate ranges, at which they have inflicted serious and very severe wounds on their adversaries. The Turks, at least at the beginning of the campaign, fought from a distance. This often proved a benefit to the Bulgarians, who profited also in a more general way from the less vulnerable character of the Turkish bullet (the German S ball), owing to its lighter weight and the point, which permitted it to penetrate and pass through the tissues more as a puncture than by punching through and making an abrasion. This bullet made slighter lesions than the Bulgarian. The aperture was more restricted, its course of less diameter, the perforations in the epiphyses cleaner, and penetrations of the skull, chest and abdomen perhaps less severe. Perforations of the large diaphyses of the bones, which are of the greatest concern to army surgeons, are as a rule less comminuted: the area of free splintering is more circumscribed and the fissures smaller. Shock is slight or negligible, even at close range.

At the beginning of the war the severity of wounds from bursting shells was exaggerated. The truth is that the penetrating power of shrapnel is less than that of rifle-balls. Owing to the shape and the lower velocity of the missiles they produce lesions different from those made by rifle-balls: larger, but not so deep, often complicated by the presence of the wounding body and by bits of clothing; fractures are simpler and less comminuted, but more exposed to suppuration.

It has been admitted that the losses sustained by armies have been decreasing since the beginning of the last century, according to the numbers engaged. The Balkan war and the war in Manchuria were exceptions to this rule and should alter the wide-spread wrong impression as to the general benign character of wounds made by rifle-balls.

Fear of the Competition of Foreign Practitioners

For some time certain physicians have been protesting at the continual increase in the number of foreign medical students. The question was discussed at the recent meeting of the Associations corporatives des étudiants en médecine (The Journal, April 26, 1913, p. 1312). It was also taken up by the Syndicat médical de Paris. Dr. Roulland called attention to the insistent protests of German students. The demands made by the Germans are about as follows:

Only a limited number of foreign students should be permitted to matriculate in the schools.

A certificate of good character should be asked, signed by officials in the country from which the student comes.

A certificate should be required showing that the student has successfully passed an examination in German.

No foreigner should be admitted to any official position.

Dr. Roulland asked if the situation in France is analogous. and answered the question in the negative. He believes that foreign students should not only be welcomed, but should be invited; that our laboratories and hospital services should be opened for the purpose of giving instruction, and that this should even be given in the mother tongue of the visiting medical student. At the same time the students should be distributed in order that the Paris school might not be overcrowded. In 1903 at Paris French medical students numbered 3,100 men and 83 women; foreign medical students, 248 men and 70 women. In 1913 the French medical students numbered 3,291 men and 229 women; the foreign medical students, 564 men and 329 women. In other words, in ten years the number of French students changed little, but that of foreign male students increased two times and of women five times.

In view of this increase Dr. Roulland believes that it would be unsafe to admit foreigners and women freely to the examinations for internships and externships. He proposes to limit the number of foreign applicants to 5 per cent. more than the number required, and to consider the foreign applicants as supernumeraries and on a second list. The Syndicat médical de Paris adopted this proposition and at the same time voted that the privileges accorded to foreigners asking for the government doctorate of substituting equivalents for the regular requirements should be abolished as soon as possible by decree; that foreign students should be compelled to undergo the same examinations as French students for degrees. including the bachelor's, and that with the exception of internships and externships all the offices given at examinations or by appointment by the state or public administration should be reserved for natives exclusively. The *syndicat* also asks that medicolegal findings to be used in court proceedings and other documents of a public nature shall be valid only if signed by French physicians. The suggestion was made that naturalized physicians should not be permitted to acquire the same privileges as natives until after five years from the time of naturalization, but this restriction was not adopted.

It is doubtful if these apprehensions and precautions are justified by actual conditions. As I have already shown (The Journal, Aug. 31, 1912, p. 732), the majority of foreign students come to France only for instruction with no idea of obtaining the government doctorate, which alone gives the right to practice.

Dioradin Again

I mentioned in a previous letter (The Journal, Feb. 22, 1913, p. 608) the suit brought against Dr. Samuel Bernheim by Dr. Louis Dieupart, who had been ordered to prescribe Dioradin but had refused to do so and had therefore lost his position in a dispensary. The court decided against Dr. Dieupart, declaring that the administrative council of the dispensary had the undeniable right to impose on the physician the exclusive use of a product "which had given rise to no criticism by the medical profession." Since this decision might create a dangerous precedent, the commission on professional interests of the Syndicat médical de Paris took up the question. It was assumed that the judge was impressed by the documents submitted to him in the case — perhaps papers presented in various congresses according to which Dioradin possesses marvelous properties. His statement that the preparation was not criticized by the medical profession was therefore made in good faith. The judge, however, cannot be admitted to have the right to declare that a given product has curative properties on the pretext that the medical profession has made no protest against its use. Nothing authorizes such assumption. There are in fact a large number of products with regard to which the medical profession keeps silent and the properties of which are far from being demonstrated. A physician has always the right and the duty of prescribing only what he believes useful to the patient. This principle ought to be respected everywhere and by all. Accordingly the *syndicat* passed the following resolutions:

1. Each physician is alone responsible for and the sole judge of the treatment that he prescribes and of the medicines that he orders.
2. A chief of service in a public or private dispensary is master of the treatment that he directs and ought not in any case to be obliged to conform to a therapeutic course prescribed in advance.
3. The *syndicat* regrets that the court has denied this and protests energetically against the decision.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, April 18, 1913.

Sixth International Congress on Physiotherapy

The first topic was the treatment of disturbances of the circulation by physical measures. The leading addresses were by O. Müller of Tübingen, Vasquez of Paris and E. Zander of Stockholm.

TREATMENT OF CIRCULATORY DISTURBANCES BY PHYSICAL MEASURES

Müller spoke on the use of baths in circulatory disturbances. The most ordinary form of bath for these conditions is the cool carbonated saline bath, which acts on the heart as well as on the blood-vessels. The carbon dioxid and the salt excite the activity of the heart; the temperature of the bath affects the blood-vessels by dilating or contracting them and thus protects and exercises the heart. Very fine gradations of the temperatures and of the proportions of carbon dioxid and salt can be obtained. Cool carbon dioxid baths slow the action of the heart and make it more effective and uniform. At the same time they contract the arterioles in the periphery, increase the blood-pressure and dilate the arterioles in the internal organs, particularly in the abdomen, so that a deepening of the respiration takes place, which favorably influences the blood-current in the veins and is calculated to equalize the distribution of blood. The heart has to perform greater work through this change and is thus exercised. The thick layer of bubbles of carbon dioxid which surrounds the body prevents the giving off of so much heat as occurs in ordinary cold baths, so that in the carbon dioxid bath a pleasant feeling of warmth results. In the warm carbon dioxid bath the pulse volume is increased, but the bath has the reverse effect on the arteries from cold baths. As a result the internal vital organs receive less blood, but the heart has a slighter task to perform; it is therefore protected. In the treatment one begins with baths of temperature midway between these two extremes, that is, about 93.2 F., and raises or lowers the temperature to protect or to exercise the heart, as desired. As the carbonated baths make considerable demands on the organism, it is absolutely necessary that they be given only under medical supervision. A course of carbonated baths at home, taken without interrupting the patient's occupation, is often injurious. Similar conditions to those of the carbonated baths are found in the electric baths and in those which contain bubbles of oxygen and air, which, however, have a milder action than the carbon dioxid baths.

Vasquez discussed the dietetics of disturbances of the circulation. He believed it possible by rational nutrition to influence the heart and vessels prophylactically in cases of permanent high blood-pressure from disease of the kidneys and arteriosclerosis. An increase of blood-pressure is produced to the highest degree by alcohol. This could not be demonstrated in other forms of diet. In the dietetic treatment of developed arteriosclerosis it is very important to restrict alcohol and to reduce the quantity of food taken as much as possible, and further to give salt-poor foods and little meat. In the more severe forms of the disease milk and vegetable diet must have the chief place. In milder forms of heart disease, special dietetic treatment is not necessary. In the severe cases the restriction of meat and the introduction of milk diet is to be recommended. The excessive use of liquids by patients with heart disease is not so well borne as the solid foods. It is possible to lessen the work of the heart in disturbances of the circulation by lessening the supply of liquids. If the heart disease is caused by disease of the kidney, the salt-free diet recommended by Widal and Strauss should be used.

Zander reported on the movement treatment in diseases of the circulation. In kinesitherapy a distinction must be made between active movements in the joints and passive movements in the tissues. The combination of various manipulations is characteristic of the Swedish method. Massage acts on the circulation to the extent that it favors the movement of the blood and lessens the work of the heart. Local edema can be influenced favorably by massage. This form of passive movement may be compared in many respects to the gymnastic breathing exercises. The difference in the amount of blood in the lungs in inspiration and in expiration is quite marked, so that by the active respiration a suction of the blood into the chest and expulsion of it results, producing effects very similar to those of massage.

Active movements have a distinct influence on the circulation of the blood. If a muscle is doing its work it needs more blood than when it is resting. Muscular exercise requires therefore the sending of the blood from the internal organs to the extremities, which is therapeutically valuable in pathologic conditions characterized by excessive amounts of blood in the internal organs. Zander does not regard it as demonstrated that muscular exercise causes hypertrophy of the heart. At any rate, among athletes the findings are not uniform. The heart may become more powerful without undergoing hypertrophy. No physical exercise imposes such a task on the heart as valvular disease, which forces the heart to extreme exertion. By exercise and training the capability of the heart to accommodate itself to requirements is increased. A further possibility of producing compensation is to be found in the periphery; that is, in the muscles. In trained muscles the vessels react better than in untrained ones; but persons with heart disease cannot be trained in the same way as the healthy. The gymnastic exercises must not tax the brain, but should be as far as possible automatic and above all be adapted to the strength of the patient. Walking is especially to be recommended, but even this is too one-sided, as it calls into play only part of the muscles.

PHYSIOLOGIC EFFECTS OF ALTITUDE AND AIR-PRESSURE

Cohnheim of Heidelberg discussed the physiologic action of altitude. In mountain altitudes the proportion of blood-cells increases in differing ratios in different animals. In the mountains an increased formation of red blood-cells and hemoglobin takes place; in healthy persons this is evident only after some weeks, but then in the course of months and years may prove very considerable. Experiments performed on artificially anemic animals show an immediate increase in hemoglobin. The influence of high altitude should be investigated not only on healthy men and animals but also on patients and sick animals.

Stähelin of Basel spoke on the influence of the daily variations in the air-pressure and the blood-pressure. Continuous tests of blood-pressure on patients with stationary pulmonary tuberculosis have shown that in the majority the blood-pressure falls on a sudden sinking of the barometer pressure. The cause of this sinking is not certain; but it is important that a generally measurable influence of a meteorologic factor has thus been established. In other diseases an influence of this sort is not shown, probably because the variations in blood-pressure produced by the disease itself conceal the effect of the weather.

LATENT DIABETES

Reicher of Schwarzburg-Morgentheim discussed the clinical balneotherapeutic relations of latent diabetes. There are many conditions difficult to explain which are to be referred to diabetes. Among these are especially neuralgia, sciatica, furuncles, itching of the skin and chronic eczema, diseases of the gums, carbuncles, phlegmon, cataract and unexplained loss of weight. In spite of the diabetes present, it may not be possible to demonstrate the sugar in the urine, but it can be shown to be present in the blood by the method of Reicher and Stein. These cases are designated as latent diabetes. They must be treated in the same way as other cases of diabetes, with dietetic measures and mineral waters.

VARIOUS THERAPEUTIC MEASURES

Klotz of Tübingen reported on the treatment of acute fa of blood-pressure with pituitary extract. The preparatio causes in case of lowered blood-pressure an increase by exci ing the contraction of the arterioles and at the same tim increasing the activity of the heart. It is to be recommende in all cases in which a lowered blood-pressure is due to th relaxation of the blood-vessels in the splanchnic area, an also in acute loss of blood, operative shock and toxic lowerin of blood-pressure. The combination with intravenous infusion of salt solution materially assists the action of the preparation.

Bruns of Marburg recommended breathing under reduce pressure for the treatment of disturbances of the respiratio and circulation. The apparatus for respiration under reduce pressure produces a permanent difference between the pressur of the atmosphere on the surface of the body and the artificially lowered pressure in the lungs, and hence an increas in volume of the vessels in the lesser circulation, and permanent fall of pressure that lessens the activity of th right heart. It is indicated in insufficiency of the respirator organs and the disturbances of the circulation occasione by it, and also in mitral disease, coronary sclerosis, stenocardia and fatty disease of the heart. In asthma it is a goo method of respiratory gymnastics. In cases of anemia, also this method has given good results.

Bergmann of Altona discussed the treatment of disturbances of the circulation by changing the pressure in the lungs This method of treatment deserves marked attention as protective treatment of the heart not only in cases in which decompensation is already established, but also as a prophylactic measure in cases in which compensation is still present. The distribution of the blood in the lesser circulation, the relative fulness and the amount of work put on the various sections of the heart and the circulation through the coronaries are modified by the changes of pressure in the air of the lungs in such a way that a suitable combination must be favorable.

Mache and Suess of Vienna and Ramsauer and Holthusen of Heidelberg reported on the absorption of radium emanation by human blood in inhalation and drinking treatments, which appeared to be suitable to introduce radium emanations into the blood and to keep them there for some time. Only medical and practical considerations are competent to determine which of the two methods is to be preferred. The possibility of exact dosage is in favor of the inhalation method, and the advantages of the drinking method are its great convenience and small cost.

(To be continued)

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, April 27, 1913.

The New Law Dealing with Epidemic Diseases

In Austria we have long had strict and exhaustive regulations pertaining to all matters of epidemic diseases of cattle and other animals, but no law dealing with the fight against such diseases if they attack human beings. All that has been done in this respect has been based on simple ordinances of several ministers. Finally by the united efforts of medical and non-medical men a bill was offered by the government, but it encountered much opposition. It was interesting to note how much politics can deteriorate a man's sound sense. For political reasons the law was attacked by medical men, or at least they thought they had to oppose it, in order to please their constituents. Needless to say, a desperate campaign was waged against the bill by the "nature healers" and antivivisectionists, seconded by the agrarian circles, who feared that the interference of the officers of health would be detrimental to the interests of the agrarian magnates, so often opposed to the interests of the general public. But after a severe struggle the law has been passed. It is yet far from fulfilling all that could justly be wished, but several important improvements have been attained. Thus, for instance, the compulsory notification of infectious diseases has been regulated; diphtheria, scarlet fever, all forms of epidemic and cerebrospinal meningitis, poliomyelitis, puerperal fever, typhoid, cholera, plague, anthrax, glanders, erysipelas, rabies and whooping-cough must be reported, while trachoma, measles, rubeola and mumps need not be reported, but should be. Doctors who suffer pecuniary loss through the application of the law will receive compensation, but the problem of compulsory vaccination, for instance, has not been solved.

The law contains five principal parts, providing for: (1) the discovery and notification of disease; (2) preventing and fighting disease; (3) the payment of costs and of compensations arising out of the application of the law to the individual, corporations or municipalities; (4) the fines for infringement of the law, and (5) general organization of the medical service in connection with the law. Some of these points are worthy of consideration. Thus the first point defines as notifiable only such diseases as appear temporarily in an epidemic way, while diseases commonly present, like tuberculosis and syphilis, are excluded. Every officer of health, practitioner or nurse called in for the first time to the case, must report it to the board of health of the district, unless it has been reported by some one else. The second part regulates the methods of isolation and disinfection, of the purification of the water-supply and the prevention of its contamination, the care of the food-supply and the prevention of contamination (especially in shops, markets and public sales and auctions). The closure of infected lodgings, the control of certain persons, the closure of schools, the control of itinerant venders and of traffic (quarantine) is also fully dealt with. The disinfection, for instance, has to be effected in lodgings with formaldehyd solution, to be used in the shape of gas, and by washing with a 1:20 solution of phenol (carbolic acid) or compound solution of cresol.

An important addition to the present state of affairs is the third chapter, which does away with the uncertainty of costs of prophylactic medicine. Special care is taken to ensure a pension for medical men or their families, in case of anything happening to them in this service; the nursing staff also is adequately provided for in this respect. The costs of the application of the law to fight epidemic diseases will be defrayed by the state, and a liberal arrangement will ensure promptness. Payment for notification of disease, which was desired by the profession, could not be obtained. Altogether the doctors were bound to accept the law, regarding it only as a payment on account, working under the idea that it was better than no law at all.

The Sale of Pathogenic Bacteria

A crime in a German town has called the attention of the public to the dangerous possibility of being poisoned with the aid of scientific institutes. A man had killed two wives and tried to kill a third one by the administration of living typhoid bacteria, which he had procured under false pretenses from the serotherapeutic institute in Vienna. This magnificent scientific state institution contains the largest and best-equipped collections of bacteria and all the latest outfits for their growth in a special department known as the "Ktal Museum." Hitherto it has been easy to get quite a large supply of any pathogenic microorganism. The authorities in charge of the institute seem never to have realized that extensive precautions were necessary to prevent abuse on the part of their customers. A simple request by letter resulted in the mailing of carefully packed glass tubes containing any required bacteria, and the laboratories all over Europe which were regular customers of the Vienna institute will in future have to prove their good faith for procuring their goods before getting them. It has been decided now that only public scientific laboratories and medical men of recognized scientific standing will be regarded as competent to receive such dangerous weapons. In his former attempts the murderer had been lucky enough to avoid all suspicion, as he styled himself "chemical laboratory" on his letter-head, and in spite of repeated requests for fresh bacteria—he could have made fresh cultures himself if he had been really the owner of a laboratory—nobody thought of foul play.

Marriages

James Paul Austin, M.D., Philadelphia, to Miss Margaret L. Thomas of Germantown, Philadelphia, April 26.

John Schafer Schneller, M.D., Catasauqua, Pa., to Miss Kathryn Johnson of Freeland, Pa., April 30.

George R. Clayton, M.D., Lima, O., to Miss Florence A. Foss Bailey of Highland Park, Ill., April 23.

Sarah Ellis Swezey, M.D., and Prof. Harry Thompson Avey, both of Allahabad, India, recently.

Albert Vander Veer, M.D., to Miss Sylvia A. de Murias, both of New York City, May 12.

Robert Dorland Paul, M.D., Chicago, to Miss Ethel Ericksen of Tacoma, Wash., April 28.

Henry Isaac Leviton, M.D., Chicago, to Miss Theresa Lurkin of California, recently.

Herman M. Baker, M.D., Stendall, Ind., to Miss Grace Sleno of Evansville, Ind., April 30.

Harold L. Rose, M.D., Oglesby, Ill., to Miss Lena Penning of Chicago, April 20.

Deaths

Louis Adolphus Duhring, M.D., the eminent dermatologist of Philadelphia; died at his home in that city, May 7, aged 67. He was born in Philadelphia, and after his graduation from the University of Pennsylvania in 1867 and an internship of fifteen months in the Philadelphia Hospital, he went abroad, studying dermatology in Paris, London and Vienna. On his return to the United States in 1870 he opened a dispensary for skin diseases in Philadelphia. For ten years he was attending physician and since that time consulting physician to the dispensary. In 1871 he was made lecturer on diseases of the skin, and five years later professor in the University of Pennsylvania. He was a member of the Medical Society of the State of Pennsylvania, vice-president of the American Dermatological Association and a member of many societies connected with his specialty at home and abroad. His best known works are his Atlas of Skin Diseases which appeared in 1876; his Practical Treatise on Diseases of the Skin, which appeared a year later, and was translated into French, Italian and Russian, and his Text-book of Cutaneous Medicine, which appeared in 1898.

Francis Parker Kinnicutt, M.D. College of Physicians and Surgeons, New York City, 1871; a member of the American Medical Association; professor of clinical medicine in his alma mater; president of the Association of American Physicians in 1906-7; a member of the New York Academy of Medicine; attending physician at the Presbyterian Hospital, New York City; consulting physician to St. Luke's, the General Memorial, Women's and Babies', Minturn and Vassar Brothers' hospitals and to the Hospital for the Ruptured and Crippled; a director of the Children's Aid Society, and co-editor, with Dr. N. B. Potter, of the English translation of Sahli's Clinical Diagnosis; died suddenly May 2, from cerebral hemorrhage, just after he had completed the reading of a paper before the Practitioners' Society, New York City, aged 66.

Asbury J. Vance, M.D. Vanderbilt University, Nashville, Tenn., 1881; of Harrison, Ark.; a member of the American Medical Association; once president of the Arkansas Medical Society; a member of the American Association of Railway Surgeons and Association of Surgeons of the Missouri and North Arkansas Railroads; and local surgeon for that road at Harrison; a member of the State Board of Health and president of the Boone County Board of Health; died in a hospital in St. Louis, April 28, aged 56.

Arthur Ames Bliss, M.D. University of Pennsylvania, Philadelphia, 1883; a member of the Medical Society of the State of Pennsylvania; chairman of the section on laryngology and otology in the College of Physicians of Philadelphia and once president of the American Laryngological Association; consulting laryngologist and aurist to Chestnut Hill Hospital and the Hospital for Epileptics; for more than twenty years laryngologist and otologist to the German Hospital and Mary Drexel Home, Philadelphia; died at his home in Philadelphia, May 1, from acute nephritis, aged 53.

Edgar Garceau, M.D. Harvard Medical School, Boston, 1890; a member of the American Medical Association, French Association of Urology; American Urological Association; American Gynecological Society and many other learned bodies; surgeon to the Boston Dispensary; gynecologist to the Out-Patient Department of St. Elizabeth's Hospital and consulting surgeon to the Quincy Hospital; author of a standard textbook on "Tumors of the Kidney"; died in Boston, April 29, aged 46.

Frank James King, M.D. Starling Medical College, Columbus, O., 1894; a member of the American Medical Association; first president of the Grand Forks District North Dakota Medical Society and for three years treasurer of the North Dakota State Medical Association; for more than twenty years a practitioner of St. Thomas, N. Dak.; a well-known specialist on the eye and ear; died in a hospital in Rochester, Minn., April 29, from carcinoma, aged 48.

Charles Huntoon Knight, M.D. College of Physicians and Surgeons, 1874; a member of the American Medical, American Laryngological and American Therapeutic associations; consulting laryngologist to the Manhattan Eye, Ear, Nose and Throat Hospital, the State Hospital for Crippled and Deformed Children and Stony Wold Sanatorium; professor of laryngology in Cornell University; died at his home in New York City, April 29, aged 63.

Henry Swift Upson, M.D. College of Physicians and Surgeons, New York, 1884; of Cleveland, O.; a member of the American Medical Association and American Neurological Association; professor of neurology in the Western Reserve University; attending physician to Lakeside Hospital and consulting neurologist to St. Alexis Hospital; died in Rome, Italy, April 23, aged 53.

William Gomez Ward, M.D. University of Alabama, Mobile, 1895; a member of the Medical Association of the State of Alabama; surgeon for the Mobile Light and Railroad Company; for several years physician of Mobile County and a member of the city council of Mobile; died at his home in Mobile, April 23.

James H. Judson, (license, years of practice, Illinois, 1882); a practitioner for forty-seven years; assistant surgeon of the One Hundred and Forty-Second Illinois Volunteer Infantry during the Civil War; for many years supervisor and school director of his district; died at his home near Polo, April 28, aged 73.

Alexander E. Walker, M.D. Eclectic Medical Institute, Cincinnati, 1897; a member of the Nebraska State Medical Association; was found dead in his apartments in Union, Neb., April 25, from a gunshot wound of the head, aged 38. It is believed that Dr. Walker was murdered and robbed.

John Coert Dubois, M.D. New York University, New York City, 1855; acting assistant surgeon, U. S. Army, during the Civil War, with service under the Sanitary Commission; for more than fifty years a practitioner of Hudson, N. Y.; died at his home April 29, from senile debility, aged 81.

Jacob L. Noble, M.D. University of Maryland, Baltimore, 1876; a member of the Medical and Chirurgical Faculty of Maryland; formerly health officer of Caroline County, Md.; died suddenly at his home in Preston, April 29, from valvular heart disease, aged 63.

Charles Wallace Price, M.D. Medical School of Maine, Brunswick, 1875; a veteran of the Civil War, in which he served both in the Army and Navy; formerly a member of the State Medical Association; died at his home in Richmond, Me., April 25, aged 68.

Leonard Bailey, M.D. Eclectic Medical College of Pennsylvania, Philadelphia, 1857; some-time president of the Connecticut Eclectic Medical Association; died at his home in Middletown, April 29, aged 78.

James M. Pocock, M.D. Medical College of Ohio, Cincinnati, 1874; formerly an officer of the National Guard of Washington; died at his home in Colfax, Wash., April 19, from cancer of the stomach, aged 63.

James Reid Mitchell, Jr., M.D. Cornell University, New York City, 1908; a member of the American Medical Association; for three years a practitioner of Fort Worth, Tex., but for three weeks a resident of Dallas; died in his office in Dallas, April 12, from the effects of poison accidentally self-administered, aged 28.

Herman Kahn, M.D. Royal University of Würzburg, Bavaria, Germany, 1861; later district surgeon for the British Government in South Africa and staff surgeon in the Bavarian Army during the Franco-German War; died at his home in New York City, May 1, aged 79.

George Edmund Stackpole, M.D. Harvard Medical School, 1870; a member of the Massachusetts Medical Society; formerly a practitioner of Malden and Dorchester, Boston; died in a hospital in Brookline, Mass., April 22, aged 69.

Orlando Webb Sutton, M.D. Eclectic Medical College of the City of New York, 1891; for several years postmaster at Bath, N. Y.; died suddenly at his home in that place, April 25, from heart disease, aged 63.

Patrick Joseph Timmins, M.D. University of Georgetown, D. C., 1878; for more than thirty years a practitioner of Boston; died in the Carney Hospital in that city, May 4, from carcinoma of the liver, aged 62.

Mary Bridges Beattie Cornish, M.D. University of Toronto, Ont., 1906; later pathologist of St. Luke's Hospital, New Bedford; died at her home in Everett, Mass., April 24, two weeks after childbirth, aged 30.

Samuel M. Richardson (license, Ohio, 1896), a veteran of the Civil War and for more than half a century a resident of New Matamoras; died at his home, about April 23, from senile debility, aged 85.

Walter Scott Thorne, M.D. Bellevue Hospital Medical College; 1869; a member of the American Medical Association; died at his home in San Francisco, April 22, from chronic nephritis, aged 72.

John H. Grady, M.D. University of Louisville, Ky., 1868; formerly of Columbia, Ky.; a Confederate veteran; died at the home of his daughter in Quincy, Ill., April 22, aged 70.

James McBride Woods, M.D. Jefferson Medical College, 1863; for thirty-three years a practitioner of Toronto, Ont.; died at his home from the effects of a fall, April 24, aged 73.

George Alexander Williams, M.D. University of the Victoria College, Coburg, Ont., 1870; formerly of Bay City, Mich.; died in the State Masonic Home, Alma, April 29, aged 69.

James Fisher Whittaker, M.D. Starling Medical College, Columbus, O., 1879; for thirty-three years a practitioner of Bloomingdale, O.; died at his home, April 30, aged 72.

Robert Spearman Edwards, M.D. Medical College of Georgia, Augusta, 1862; of Trussville, Ala.; died at the home of his son in Brighton, Birmingham, Ala., April 29, aged 65.

Eddy Bert, M.D. University of Göttingen, Germany, 1864; for many years a member of the American Medical Association; died at his home in Chicago, May 8, aged 72.

John W. C. O'Neal, M.D. University of Maryland, Baltimore, 1844; a veteran of the Civil War; died at his home in Gettysburg, Pa., April 24, from senile debility, aged 92.

Lee Roy Moore, M.D. Memphis Hospital Medical College, 1908; was found dead in his office in Brunswick, Tenn., April 28, from an overdose of chloroform, aged 30.

Conrad P. Strauss, M.D. College of Physicians and Surgeons, Baltimore, 1887; died at his home in Baltimore, May 2, from carcinoma of the throat, aged 47.

William Silliman Irwin, M.D. University of Tennessee, Nashville, 1906; of Falfurrias, Tex.; died in San Antonio, Tex., March 28, from heart disease, aged 35.

Octavius B. Schmall, M.D. Medical College of Indiana, Indianapolis, 1882; of Cincinnati; died in the Longview Hospital in that city, March 3, aged 59.

William B. Spain, M.D. Vanderbilt University, Nashville, Tenn., 1907; died at his home in Talbotton, Ga., April 26, from heart disease, aged 28.

Benjamin W. Pratt, M.D. Columbus (O.) Medical College, 1882; died at his home in Goodland, Ind., April 15, from pneumonia.

Pembroke S. Edwards, (license, 9 years of practice, Michigan, 1900); died at his home in Grand Rapids, May 1, aged 76.

Ruffin Cole Claiborne, M.D. Tulane University, New Orleans, 1903; died at his home in New Roads, La., April 27, aged 33.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

COLLYRIUM-WYETH

"I should be glad of any information about Wyeth's Collyrium and would also like to know if the position taken by this concern measures up to the requirements of the Council on Pharmacy and Chemistry."

This inquiry was received from a Boston physician, who enclosed with his note the letter quoted below that he had received from John Wyeth & Brother, Philadelphia, the makers of the preparation in question:

> "We have your letter of the 22d inst., in which you request us to send to you formula for 'Collyrium,' and in reply thereto, beg to advise, being a corporation you will, we think, appreciate why we are not at liberty to disclose the various formulas under which our preparations are made. Such is the competition in the trade that secrecy in this respect is a valuable asset.
>
> "You will not for a moment think that we take this position through any distrust of your discretion or good faith, but because *we feel that our duty* to the stockholders of the company prohibits us from disclosing our formulas.
>
> "Let us assure you however, that the eyewash contains only the simplest and most harmless remedies *well known to the medical profession.*"

John Wyeth & Brother seek the patronage of the medical profession and desire physicians to use their preparations, but "being a corporation" they "are not at liberty to disclose the various formulas" of these preparations. In other words, they expect physicians of the country to prescribe "patent medicines" of whose composition they must be ignorant and to rely wholly on the word of John Wyeth & Brother as to the innocuousness of these products.

The letter is an *insult to the physician to whom it was written.* If physicians were not so apathetic in cases of this kind, the corporation of John Wyeth & Brother would long since have been forced "off the fence"—it would have become either a "patent medicine" concern or would have confined its activities to the manufacture of pharmaceutical products and ethically exploited proprietaries. Now what about this Collyrium-Wyeth. It was analyzed in the Chemical Laboratory of the American Medical Association and the chemists report:

> "The specimen of Collyrium-Wyeth examined was a clear, colorless liquid having a faint odor like benzaldehyd. Qualitative tests demonstrated the presence of antipyrin, free boric acid and *sodium borate. Acetanilid,* ammonium salts, glycerin, nitrates, phosphoric acid and pyramidon were *absent.* Such potent alkaloids as atropin, cocain, homatropin and pilocarpin, which are often used in ocular surgery, were not found. Preparations of goldenseal were not present. Quantitive examination indicated that the composition of the preparation examined is essentially as follows:

Antipyrin	0.41 gm.
Sodium borate (borax)	0.55 gm.
Boric acid	2.14 gm.
Water (by difference) to make	100.00 c.c.

The secret of such a formula must indeed be a "valuable asset!" We venture the assertion that if the medical profession did its duty, *the corporation* of John Wyeth & Brother would find that its "duty *to the stockholders* of the company" constrained it to abandon secret "patent medicines" and to confine its activities to a legitimate line of pharmaceutical products. An examination of the firm's pricelist reveals but a very few secret-formula preparations of the type represented by Collyrium, hence it would probably not seriously damage the business of the firm either to eliminate all such formulas from its pricelist or to enable the physician to use them intelligently, if they deserve it.

THE PROPRIETARY EVIL IN GREAT BRITAIN

Here are some excerpts from testimony recently given before the Select Committee of the House of Commons on proprietary medicines. It is Mr. E. J. Parry speaking. Mr. Parry, who is a lawyer and a consulting analyst, appeared before the committee in behalf of the "patent medicine" interests. Regarding the large pharmaceutical manufacturers and their detail men, pharmaceutical journals report his testimony thus:

> "The education of a large number of practitioners in regard to the use of drugs depended on the firms which made the drugs, their travelers [detail men] and their literature. An enormous amount of money was spent on travelers doing nothing but call on doctors to induce them to prescribe the various remedies of particular firms, to keep them up to pitch, and *to prevent their forgetting the remedies.* What was advertised to the profession was not the ingredients and their virtues, but the particular excellence of the method of combining them. With great respect to medical men, he thought they were exceedingly credulous with regard to these articles. Doctors were quite susceptible to being talked over by the travelers. They persuaded the doctors that their substance was better than those of twenty other firms, although, as a matter of fact, it was *identical.*"

Later in the examination, the chairman of the committee questioned Mr. Parry. Thus:

THE CHAIRMAN: What would be your own view of the ethics of the matter if you are suffering *from some ailment* or disease *which has not* yielded to ordinary treatment, and you go to a doctor, and he doses you with a drug given him by the traveler [detail man] to some firm, and of the nature of which he himself is ignorant?

MR. PARRY: The doctor may be ignorant to some extent, but I think he knows generally that when people spend money and time to bring these things before his notice there is a *prima facie* reason for believing that they will do some good.

THE CHAIRMAN: Are you ready to be dosed under these circumstances with something which was merely to be *recommended to the doctor by a traveler?*

MR. PARRY: I am only putting my standpoint. I have nothing to do with the ethics of the question.

And here is another gem:

THE CHAIRMAN: *Do you really believe* that doctors prescribe secret remedies of the composition of which they know nothing?

MR. PARRY: Yes; take the case of Antikamnia, which has been sold very largely and almost entirely on the prescription of medical men. Phenalgin is another case; yet if acetanilid is sold as Daisy Powder *they condemn it.*

THE CHAIRMAN: Then you really think that medical men do prescribe to their patients very largely *medicines of the* value of which they are ignorant?

MR. PARRY: Yes, to a considerable extent. There is the case of Aletris Cordial. Under that name an American firm brought out a remedy with only a general indication of what it was. Its reputation has been built up by British medical men prescribing it

All of which makes interesting, if unedifying, reading.

DIATUSSIN

Dr. I. Fleiss, New York, writes:

"Please state the value of Diatussin, of Bischoff & Co., in pertussis. Since pertussis is such an intractable disease, anything which promises improvement is apt to attract the physician's attention. Is the 1913 edition of the N. N. R. out?"

According to an advertising circular, issued by E. Bischoff & Co., purporting to be a "reprint from the *Munich Medical Weekly,*" Diatussin is " . . . . a dialysate of Herbæ Thymi and Pinguiculae." The latter is said to be known in the Alps as "blue fatweed." The only further information as to the composition of this preparation is the statement that "the dialysate of this blue fatweed is said by the manufacturer to contain a proteolytic ferment." The writer of the article recounts how, after trying a host of remedies, he finally had such success in the treatment of whooping-cough that " . . . a whole procession of mothers with children affected by whooping-cough came to me from a neighboring village, only because several children from this place had been quickly cured by the dialysate." Nevertheless, while the "procession of mothers" appears to have been impressed by the virtues of Diatussin, the writer of the article, rather modestly for contributors of this sort, admits that "I am, of course, well aware, that the small number of cases under my observation allows of no decisive conclusion; it is only the object of these lines to interest a wider circle in tests."

New and Nonofficial Remedies, 1913, has been issued and will be sent postpaid on receipt of 25 cents for a paper-bound copy and 50 cents for a cloth-bound copy.

Association News

THE MINNEAPOLIS SESSION

Exhibit Illustrating Medicinal Plant Cultivation

Among the interesting features of the scientific exhibits to be given at the Minneapolis session of the American Medical Association will be a medicinal plant garden and a pharmacognosy plant laboratory presented by the staff of the College of Pharmacy of the University of Minnesota. These exhibits will be in charge of experts during the entire session and will be arranged in the Laboratory of Pharmacology, Room 201, Millard Hall. In the same room, exhibits of experimental work in the department of pharmacology and of instruments and apparatus devised in the department of physiology will also be placed.

Other details concerning the Minneapolis Session were given in the illustrated convention number of THE JOURNAL, May 10.

Correspondence

Advantage of Including the Indian Service in the Proposed Department of Health

To the Editor:—I have read the text of the Owen bill as published in THE JOURNAL (April 26, p. 1320) and am heartily in favor of its provisions. I think, however, that there is one important omission. By all means, it seems to me, the medical department of the U. S. Indian Service should be taken over by the new Department of Health. There are many reasons why this should be done.

In the first place, the Indian Medical Service, taken as a whole, is wofully inefficient and is not getting results commensurate with the money being spent or the work being done; and this does not mean that the Indian Service doctors are either overpaid or overworked. It simply means that even the small salaries paid and the small amount of work being done are largely wasted because the whole effort is misdirected. The medical service furnished to Indians should be mainly along the lines of sanitation and preventive medicine. The present plan of employing physicians of more or less mediocre ability to do a general practice among camp Indians, neglecting the larger questions of sanitation and hygiene, is a narrow policy, to say the least, and nothing proves its futility more than the rapid spread among Indians of tuberculosis, trachoma and other serious though preventable diseases. The following quotation is from a report recently made on this subject by the Public Health Service:

"The relief of suffering and the cure of disease are necessary, and provisions made to this end are commendable, but under present conditions their application is discouraging and does not approach the problems of sanitation among Indians. The curative effects aimed at . . . are largely nullified by the conditions under which the work is attempted and by the indifference of the primitive Indian and his ignorance of the first principles of hygienic living.

"It was the common observation that many of the medical officers of the Office of Indian Affairs were working hard, but a great deal of their really hard work is wasted."

By the absorption of the Indian Medical Service into the Department of Health the work could be organized and directed along more effectual lines; and the questions of better and more uniform salaries and of promotion for efficient service could be adjusted. These improvements would render the service more attractive and better men would be brought into it.

That these very desirable ends will ever be accomplished under the present system is improbable. Take the question of salaries for instance. Usually a lump sum is apportioned to each school or agency; this the superintendent in turn apportions as he sees fit among his different employees. The less he pays the doctor the more he will be able to pay some other employee, or the greater the total number of employees he will be allowed. The result invariably is that he keeps the physician's salary down as low as he dares. In fact, the Indian Office often not only encourages him to do this, but actually compels him by refusing to ratify any increase he may be disposed to give the physician. The low-salaried physician, usually located in some out-of-the-way place and seeing the general futility of the work, soon becomes dissatisfied and joins in the continual and interminable wrangle for transfer, each man feeling that any change would be acceptable.

Last, but by no means least among the advantages to be gained by transferring the Indian Medical Service to the Department of Health would be the removal of these physicians from under the jurisdiction of lay superintendents. These superintendents are more or less ignorant of medical matters and have no true conception of the relative importance of medical work, especially that of a sanitary nature; yet they have full authority over the doctors of the service, pass on their efficiency and merit and think nothing of interfering in their work. In my experience this has been especially true with regard to questions of vaccination and quarantine. One of the present Indian Service supervisors even openly opposes vaccination against small-pox.

In conclusion, another short quotation from the report cited above will be appropriate:

"The physicians conducting the work on many of the reservations see no encouragement, their life is isolated, their pay small, their hope of promotion less and their authority to attack real problems limited . . . but among the other governmental medical corps the medical officers, by reason of definite organization and hope of advancement, are filled with enthusiasm and *esprit de corps* which is necessary to success in any great coordinated work."

GEORGE W. WIMBERLY, M.D., Physician, Yakima Agency, Fort Simcoe, Wash.

Registration (!) in Mexico

To the Editor:—In view of Dr. W. G. Hathaway's request for information as to laws regulating the practice of medicine in Mexico, in THE JOURNAL, April 19, 1913, p. 1247, my experience may be of interest. I graduated from Jefferson Medical College, Philadelphia, in 1898. I made an attempt to comply with the laws of the state of Coahuila regarding the practice of medicine. I began to obtain the desired information or certificates in the latter part of 1910, and quit in disgust in 1912 after spending between two and three hundred dollars and obtaining no results whatever. I employed a lawyer and sought advice from the American consul, who directed me to "Judge" ———, "who was very reliable and would give me all necessary information." Later on I discovered that he was a judge, but a judge of bull fights.

This so-called judge directed me to a notary public, who stated that all that was necessary for me to do to comply fully with all laws was to have my certificates registered in his office, for which he charged me $64.40. This registration I discovered was not worth the paper it was written on—a pure skin game. Then I forwarded all my papers to the governor or secretary of the state of Coahuila, who held them quite a while without replying to my numerous letters regarding them. At last they were returned with the statement that a new law had been passed the day before which made all of my certificates void, and that it would be necessary for me to obtain new ones, notwithstanding the fact that all the necessary certificates had been in his hands two months or more before the new law was passed.

After I obtained new certificates complete from the medical college, Mexican consuls, Secretary of Foreign Relations, etc., three distinct times, going through all red tape and hot air, they informed me that this was not sufficient. This was all I could ever get out of them: "Not sufficient." They absolutely refused to state what was lacking, and no lawyer or any one else could enlighten me on the subject.

The truth of the matter is that on paper it is very easy to obtain registration in Mexico, but in practice almost an impossibility for an American, as the Mexicans do not want American physicians in that country and they will do anything to hinder and disgust them in trying. I was informed that as a last resort they would state that it was necessary to forward my diploma to the state capital, and that if I should be so foolish as to do so it would be reported as lost, that I would never have the pleasure of seeing it again.

I should be pleased to hear from other victims of this practice, with suggestions for practical relief.

C. R. BYARS, M.D., Bay City, Tex.

"A New Operation for Hemorrhoids"

To the Editor:—In THE JOURNAL, April 12, 1913, p. 1154, Dr. R. A. Bachman describes his operation under this heading. For a number of years I have operated with the best results as follows:

The instruments used are one pair of "mousetooth" forceps, a pair of pocket scissors and a half-curved needle; the material, chromicized gut or silk. The sphincters being dilated and the pile-bearing ring rolled out, the forceps grasp the posterior portion of the mucous membrane on one side, the threaded needle is introduced into the intestine above the ring, carried at right angles under it, care being taken not to include the sphincter, and is brought out at the mucocutaneous junction. The scissors now cut through both layers of mucous membrane about 3/16 inch distally from the suture, at right angles to it, and it is immediately tied. This is repeated every ¼ inch until the "12 o'clock" (Dr. Bachman) is reached. This procedure is repeated on the opposite side. The dressing is done with orthoform powder, tube, etc.

This operation is simple and is attended by a minimum of hemorrhage; six sutures are usually sufficient; accurate apposition is obtained; it gives as little pain as any other, and the results are splendid.

S. IGLICK, M.D., Orland, Cal.

The Waste of Inadequate Support of Health Departments.—It costs the people of Kentucky about five millions of dollars every year to maintain their county organizations to look after the observance of statute laws. They pay willingly about the same amount to support their ministers, their churches, etc., to maintain the spiritual laws, and yet in most counties of the state there is less than seventy-five dollars spent each year to support county boards of health which, properly equipped at a cost not exceeding five thousand dollars for each county, would save them enough money, paid as tax to doctors, druggists, nurses, and undertakers and loss of time, to pay all the running expenses of their counties and the state, besides saving them from the mental and physical distress of unnecessary illness.—W. L. Heizer in *Kentucky Med. Jour.*

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter *must* contain the writer's name and address, but these will be omitted, on request.

OZONE IN TREATMENT OF GLYCOSURIA

To the Editor:—In THE JOURNAL for April 26, 1913, p. 1332, is an abstract of an article in the *Presse médicale*, by Labbé and Pérochon, on the treatment of glycosuria by ozone. The statement is made that a woman of 68 "had 150 or 200 gm. of sugar to the liter of urine and this became materially reduced under the ozone treatment and her severe pruritus became very much improved."

Is there not some error of observation here? Is it possible for the kidney to excrete a urine containing 20 per cent. of sugar?

Is there any evidence to justify the belief that the inhalation of ozone can materially reduce such an enormous percentage of sugar? Would it be possible for a human being to inhale a sufficient amount of ozone to oxidize the amount of sugar contained in a liter of urine if the proportion of sugar were 20 per cent.?

S. B. R.

ANSWER.—Critical examination of the original article indicates that it was not worth abstracting and should not have been abstracted. It gives no account of technic or of dose, and so-called "results" are recorded in an extravagant and, at the same time, very indefinite way.

Our correspondent is quite right in calling attention to the improbability of an output of sugar equivalent to 20 per cent. of the diabetic urine. The content of glucose in the kidney secretion may, in rare cases, reach 10 per cent. which is, as far as we can learn, the limit set by actual clinical experience.

There is no occasion to discuss the probability of the ozone which can be inhaled from fifteen to thirty minutes per day—or even for decidedly longer periods—being able to destroy the amount of sugar reported to have disappeared, or even much smaller amounts within the range of physiologic experience. Investigators have ceased to attempt to enhance the oxidative capacity of the organism by such methods. The French authors assume that "nascent oxygen" attaches to the red corpuscles in some subtle way and is thus transported in greater abundance to the tissues, thereby increasing the utilization of carbohydrates. As a matter of fact the metabolic defect in diabetes is not a deficiency of circulating oxygen; this is rarely found wanting in any condition in which respiration is unimpaired. The entire description in the article inadvertently abstracted by THE JOURNAL from the *Presse médicale* is tinged with untenable and fanciful physiologic incongruities and therapeutic nonsense. In the absence of dietary details it is not even possible to entertain a serious critique.

The question of ozone was discussed in the editorial "Ozone Myths," THE JOURNAL, Feb. 10, 1912, p. 412.

DRAINAGE OF ASCITES INTO SAPHENOUS VEIN

To the Editor:—With reference to the article on "Direct Drainage of Ascites into Saphenous Vein," by Dobbertin, abstracted in THE JOURNAL, April 26, 1913, p. 1333, I should like to ask: Are any measures taken to fix the vein in the peritoneum or to keep the end of the vein from collapsing and closing? How much curve is given the vein when it is pulled up into the tunnel made for it? Which saphenous is employed? What site is chosen for entering the peritoneum? M. L. HILLSMAN, M.D., Little Valley, N. Y.

ANSWER.—Under local anesthesia two incisions are made, one below Poupart's ligament which exposes the saphenous vein, and the other above the ligament in the region of the external inguinal canal, for the transplanting of the stump of the saphenous vein into an opening made in the peritoneum. After the saphenous vein has been exposed it is ligated and divided about two inches from where it empties into the femoral vein. The stump of the saphenous vein is then drawn upward through a tunnel made under Poupart's ligament and out through the second incision made just above Poupart's ligament. A small triangular peritoneal flap is raised and into the opening thus made, the stump of the saphenous vein is sutured, and the peritoneal flap is dropped over the vein and sutured to it. The abdominal muscles which have been separated but not divided in the exposure of the peritoneum at this point, are kept from constricting the opening of the vein by being drawn downward with a few catgut anchor stitches. In this way the fluid in the peritoneal cavity flows through the stump of the saphenous vein into the femoral vein and thence into the general circulation. The author advises performing the operation on one side first and then, if necessary, doing it on the other side later. The peritoneum is entered between the external abdominal ring and the edge of the right rectus muscle.

THE LUETIN REACTION—TYPEWRITTEN PRESCRIPTIONS

To the Editor:—I would appreciate answers to the following: 1. What is the technic of the luetin reaction? 2. How is the antigen made? 3. Will it keep? 4. What is the reliability of the reaction? 5. Is it suitable for the use of a private practitioner? 6. Is it permissible to typewrite prescriptions? READER.

ANSWER.—1. The luetin reaction is made like the von Pirquet test with tuberculin—much like ordinary vaccination.

2. The antigen is an extract prepared from at least six strains from the *Spirochaeta pallida*, thus securing a polyvalent antigen. The material is placed in a porcelain jar and ground by means of marbles in a shaking-machine. The emulsion thus obtained is carefully transferred to a sterile bottle heated to 60 C. (140 F.) for thirty minutes, and 0.4 per cent. phenol (carbolic acid) is added. For further details regarding the luetin test see Hideyo Noguchi's article, "Experimental Research in Syphilis," THE JOURNAL, April 20, 1912, p. 1163.

3. We find no statement with regard to its keeping properties, but judge that the antiseptic used would preserve it for a considerable length of time.

4. The reaction appears to be positive in most cases of tertiary syphilis. It is not so reliable in primary and secondary syphilis. In these forms the Wassermann reaction, or the Noguchi modification of it, is to be preferred.

5. There are no contra-indications to its use by a private practitioner. Only in a few cases have any general symptoms been reported.

6. Yes. The use of the typewriter for writing the body of the prescription is not only entirely permissible, but highly laudable, for obvious reasons; every prescription should have autographic signature, however. There are typewriters which are fitted with the types for the necessary symbols.

CARREL ARTICLES ON PRESERVATION OF LIVING TISSUES OUTSIDE THE ORGANISM

To the Editor:—Can you furnish me with references to the literature concerning the preservation of living tissues by Dr. Alexis Carrel? R. A. ROBERTS, M.D., Kansas City, Kan.

ANSWER.—The following literature can be consulted on this subject:

Carrel, A., and Ingebrigtsen, R.: Production of Antibodies by Tissues Living Outside of the Organism, THE JOURNAL, Feb. 17, 1912, p. 477.
Carrel, A.: Technic for Cultivating Large Quantity of Tissue, *Jour. Exper. Med.*, April, 1912.
Carrel, A.: Permanent Life of Tissues Outside of Organism, *Jour. Exper. Med.*, May, 1912
Carrel, A.: The Preservation of Tissues and Its Application in Surgery, THE JOURNAL, Aug. 17, 1912, p. 523.
Carrel, A.: Pure Cultures of Cells, *Jour. Exper. Med.*, August, 1912; abstr., THE JOURNAL, Aug. 17, 1912, p. 576.
Carrel, A.: Visceral Organisms, THE JOURNAL, Dec. 14, 1912, p. 2105.
Carrel, A.: Artificial Activation of Growth in Vitro of Connective Tissue, *Jour. Exper. Med.*, January, 1913.

EARLY CORRECTION OF PROGNATHOUS MANDIBLE

To the Editor:—My little son, 3 years and 5 months old, has a deformity of the face—his lower teeth close in front of the upper teeth, instead of behind them as they should. My dentist says that some orthodontic work will have to be done, but that it must wait until the permanent teeth come. Why would it not be better to have it done at once? INQUIRER.

ANSWER.—Provided all the teeth are sound and the child's physical condition good, it is advisable to commence the correction of the deformity at the earliest age possible; that is, as soon as practicable after the eruption of the temporary set of teeth. The reason for early interference is that the bones are more pliant in childhood, and therefore the deformity is much more easily corrected. This work requires considerable skill for its performance, more than is possessed by a considerable number of general practitioners of dentistry.

THE TERMS "LYMPH-NODE" AND "GLAND"

To the Editor:—In an article on diphtheria (Lind, S. C.: Atypical Pharyngeal Diphtheria, THE JOURNAL, May 10, 1913, p. 1412), I note that the author refers to the submaxillary swelling as submaxillary "lymph-nodes." Are these not usually known as submaxillary "glands"? How shall one know when to say "glands" and when to say "nodes"? S. L. B

ANSWER.—A gland is a secreting organ. A node is a circumscribed mass of differentiated tissue, but is not a secreting organ. A lymph-node (or knot) is an encapsulated nodular aggregation of lymph tissue interrupting the course of lymph vessels, without a secreting function, and therefore cannot be designated as a gland, although it is often called a lymph-gland. The term "node," on the other hand, is often used when nodosity is meant, the latter being distinctly a pathologic condition. "Lymphaden" has also been used to designate these masses of lymph tissue, and from it the pathologic term "lymphadenitis" takes its origin. The B. N. A. gives to these structures the name "lymphoglandulae." Structurally, the term "lymph-node" is the correct one, not "lymph-gland."

The submaxillary glands are the salivary glands, whereas the submaxillary lymph-nodes are lymph-tissue structures or nodes. There are two submaxillary glands and from six to twelve submaxillary lymph-nodes. The latter are found in the superficial layers of the sheath of the glands, but not inside the sheath.

TYPHOID VACCINE AND A NURSING MOTHER

To the Editor:—1. Is there any contra-indication to using typhoid vaccine in a nursing mother?
2. What effect, if any, will it have on the nursing child?
3. Is this vaccine useful in the treatment of typhoid?
G. W. JOHNSON, M.D., MacAlpin, W. Va.

ANSWER.—1. The fact that the mother is nursing an infant is not a contra-indication to the use of this vaccine. If a febrile reaction ensues, however, it would be wise to stop the nursing temporarily.

2. Antibodies will pass into the milk, but it is doubtful if enough would be absorbed by the child to afford protection for any considerable length of time.

3. The use of typhoid vaccine for treatment of typhoid fever is still in the experimental stage. Favorable results have been reported in some cases, but this treatment has not been tried in a sufficiently large number of cases to warrant a definite answer as to its value.

PHYSICIANS' STUDY TRAVEL TOUR ABROAD

An answer to a correspondent appeared in this department April 5 on this subject. A letter has been received from Dr. J. M. Anders, Philadelphia, chairman of the American Society for Physicians' Study Travels, informing us that he will not arrange a tour abroad this year. This organization is planning systematic work in the future, but for this year Dr. Anders is turning all correspondence over to Dr. Richard Kovács, 236 E. Sixty-Ninth Street, New York City, who is organizing a travel study tour. Dr. Anders says that he is doing this without assuming any responsibility for the character or success of this year's tour.

CRACKLING IN THE TEMPOROMANDIBULAR JOINT

To the Editor:—I have three cases in which the lower jaw is involved—a subluxation. When the patients bite or chew their food one can hear and feel the crackling. I have tried the ordinary external remedies but to no avail. Will you please advise me what other methods or procedures to follow, either medicinal or otherwise? E. J. OXFORD, M.D., Chambers, Neb.

ANSWER.—In the temporomandibular joint the "crackling" which may be heard and felt when a person is chewing is not caused by a subluxation, but is probably the result of unusually severe masticatory efforts or a low-grade arthritis. It usually disappears or resolves itself without treatment. Chronic subluxation can be relieved only by surgical treatment—an open operation.

THE CLINICAL THERMOMETER AS A VEHICLE OF INFECTION

To the Editor:—For years I have inserted a piece of cotton into my thermometer case and kept it saturated with pure phenol (carbolic acid), and I am quite sure that your layman correspondent (mentioned in Current Comment, May 10, 1913, p. 1467) would not care to look for his own thermometer if handed mine to make fit for use. This may not be ideal but it seems to satisfy my people and no harm has, as yet, come of its use.

W. H. WELLS, M.D., Monmouth, Ill.

TUBERCULIN THERAPY IN TUBERCULOSIS

To the Editor:—Is any preparation of tuberculin an established form of treatment for tuberculosis of the lungs? Has this form of treatment received the recommendation of the leading clinicians, and is it used to any extent in the treatment of pulmonary tuberculosis? A. I. LAWBAUGH, M.D., Calumet, Mich

ANSWER.—Tuberculin is used by a number of clinicians as an adjunct to the ordinary sanatorium treatment.

Miscellany

The Phenolsulphonephthalein Test of Renal Function

"Rowntree and Geraghty" (*Jour. Pharm. and Exper. Therap.*, 1910, i), said Emerson in 1911 (*Clinical Diagnosis*, 1911, p. 341), "have proposed a test for the functional activity of the kidneys which promises to prove the best yet suggested." Briefly the method consists of the injection of 0.6 gm. of phenolsulphonephthalein and 0.84 c.c. of half-normal sodium hydroxid solution in 0.75 per cent. sodium chlorid solution to which a few drops more of the half-normal sodium hydroxid are added to prevent irritation. Half an hour before administering the test the patient is given a few hundred cubic centimeters of water to insure free urinary secretion. It is desired to determine the time of the first appearance of the phenolsulphonephthalein in the urine, and the patient is instructed to void the bladder frequently into a tube of 25 per cent. sodium hydroxid solution in order that the earliest development of a pinkish tinge may be noted. Specimens are collected at the end of the first hour and at the end of the second hour. Usually the drug appears in the urine from five to eleven minutes after its injection. Each sample of urine is measured and the specific gravity taken. It is then placed in a 1-liter (1-quart) flask, and sufficient 25 per cent. sodium hydroxid is added to make it decidedly alkaline, thus eliciting the maximum color. Sufficient water is added to make up a total of 1 liter. This is thoroughly mixed and a small portion filtered and is compared colorimetrically with a standard used for all estimations. The standard colorimetric solution consists of 3 mg. of phenolsulphonephthalein (0.5 c.c. of the solution used for injection) diluted up to 1 liter and made alkaline by the addition of 1 or 2 drops of 25 per cent. sodium hydroxid. This solution is stable and retains its color for weeks.

Rowntree and Geraghty found in a series of normal cases that from 40 to 60 per cent. of the phenolsulphonephthalein is excreted after one hour, and that from 20 to 25 per cent. more are excreted in the second hour, making a total of from 60 to 85 per cent. They found that in acute nephritis the activity of the kidneys may fluctuate greatly in from twenty-four to forty-eight hours. In parenchymatous nephritis there is a marked decrease in the amount of phenolsulphonephthalein excreted, and also in chronic interstitial nephritis a low output was found in all cases.

In a later report Rowntree and Geraghty (The Phenolsulphonephthalein Test for Estimating Renal Function, The Journal, Sept. 2, 1911, p. 811), confirm their previous results and show that the test is of value in that it not only establishes uremia, but also indicates impending uremia when other signs are lacking. They conclude that the intramuscular injection is preferable to the subcutaneous. This work was confirmed by Boyd (Phenolsulphonephthalein and Functional Tests of the Kidneys, The Journal, March 2, 1912, p. 620), who examined a large series of cases, the test proving of great value in cardiorenal diseases in showing to what extent renal function was affected.

Continuing still further, Rowntree and Geraghty (The Phthalein Test: an Experimental and Clinical Study of Phenolsulphonephthalein in Relation to Renal Function in Health and Disease, *Arch. Int. Med.*, March, 1912, p. 284, abstr., The Journal, April 6, 1912, p. 1038), find that diuretics which stimulate the renal cells also stimulate the excretion of the drug, whereas those acting mechanically have no effect. Finally Geraghty (A Study of the Accuracy of the Phenolsulphonephthalein test for Renal Function, The Journal, Jan. 18, 1913, p. 191), has indicated that for practical purposes catheterization is unnecessary, one sample being collected after one hour and ten minutes, and another one hour later. The drug is best given ordinarily by intramuscular injection. When intravenous injection is made, specimens should be taken at fifteen-minute intervals. For practical work no colorimeter is necessary. The specimen may be placed in a tube and compared with a tube containing a known quantity of the drug, dilution being made until the two specimens are similar, and the percentage of excretion determined by simple calculation. The tests have been made in more than a thousand cases. In over forty cases post-mortem examination confirmed the conditions suggested by the test.

More recently Erne (*München. med. Wchnschr.*, 1913, xl, 510), has made a large series of tests, and his results as well as those of other observers whom he quotes seem to bear out fully the prophecy made by Emerson. Moreover, he has introduced several modifications which make the test better available for general use. The intragluteal injection was found much better than that proposed by the original observers of injection into the arm. The material used was made up according to a special formula of Autenrieth and Funk (*München. med. Wchnschr.*, 1912), and which is available in ampules ready for injection. A special colorimeter which is simple in use, so simple that tests may be made rapidly with but little practice, has also been designed.

By the examination of normal persons, Erne found that from 47 to 68 per cent. was excreted after one hour, and from 74 to 85 per cent. after two hours. In pregnant women he found disturbances in functional activity quite constantly both before and after birth, and particularly when eclampsia threatened. Phenolsulphonephthalein tests in a large series of cases showed in all a lowered excretion when renal lesions or disturbances existed. The occurrence of albumin and excretion of phenolsulphonephthalein, however, do not run parallel. In asthmatic cases, the phenolsulphonephthalein excretion was lowered at the time of the attack, thus adding support to the view that there is a relationship between intoxication from retained products and asthma, further borne out by the relief in such cases from the administration of hexamethylenamin. A comparison of the excretion of phenolsulphonephthalein with the amount of acetone and diacetic acid showed that when the excretion of the latter substances is increased the former is always decreased. Likewise the severity of the objective and subjective symptoms was proportional to the amount of the drug excreted.

Erne's study of this test in pregnancy has confirmed the earlier work of Goldsborough and Ainley (The Renal Activity in Pregnant and Puerperal Women as Revealed by the Phenolsulphonephthalein Test, The Journal, Dec. 10, 1910, p. 2058), who noted that pregnant women eliminate phenolsulphonephthalein more slowly than normally, and that in the last month of pregnancy the power to eliminate this drug may fall far below the limits set for non-pregnant women.

Erne has demonstrated by careful observations that no harm is done to the kidneys by injection of the drug; the test is simple, easy and short; the results are regarded as dependable and as more accurate than other methods, and, they show disturbances of function when the tests for albumin are doubtful. It would seem then that we have here a valuable means for the clinical study of renal activity. It would appear to be of special value to the surgeon when, for instance, the question is the justifiability of removing a diseased kidney. Here the urine may be obtained from each kidney by ureteral catheters, and the exact functional ability of the two kidneys estimated. The tests make it possible to select a time for operation when the kidneys are in good functional condition. From the medical point of view the test should prove of special value in acute infectious diseases in which nephritis often arises during the latter stages; indications for the use of proper measures may be secured before albuminuria occurs and uremia becomes imminent. In complicated toxic cases with doubtful diagnosis because of the trace of albumin often present in the urine, and of observations pointing to a bacterial poisoning, the test may aid in clarifying the situation.

Tobacco-Chewing and Snuff Habits Among Children.—It is the popular understanding that tobacco-chewing and snuff-dipping are common among both men and women in certain districts of the South. Stiles (*Public Health Reports*) has observed that these habits are quite common among children in the rural districts and in the mill towns. Children from 4 years up, in certain districts, are commonly in the habit of using tobacco in these forms. Stiles made an inquiry in a certain county, having in mind the relation between the tobacco habit and the presence of sanitary conveniences in the homes. Of a total of 127 boys and girls 31, or 24 per cent., admitted the use of snuff or tobacco. Of the 13 smokers (11 boys and 2 girls) 8 came from homes provided with sanitary conveniences. Of 20 tobacco-chewers (12 boys and 8 girls) 4 came from more refined and 16 from less refined homes. Of 17 snuff-dippers, 3 came from more refined and 14 from less refined homes. These statistics, though small, Stiles says are in harmony with his observations extending over many years. In an attempt to find a specific cause for the wide prevalence of the tobacco habit among children, he found, very curiously, that in a number of instances the habit had been recommended by ignorant physicians as a preventive of anemia. Stiles says that among the illiterate classes there is a geographically wide-spread folk belief that snuff-dipping and tobacco-chewing are preventives against anemia and that there can be no question that it has received professional sanction from the more ignorant rural physicians.

Genius and Errors of Refraction.—We are familiar with the attempt to prove by analysis of the autobiographic notes of men of genius that their philosophy has been tinctured by physical and mental distress arising from uncorrected errors of refraction. Be this as it may, there can be no question that the person with a high degree of myopia is apt to be introspective and studious because his defective vision prevents him from obtaining his pleasure as do other children, and, as we have seen, internal squint, which in 90 per cent. of the cases results from an error of refraction, may greatly modify the disposition of the child. While we all admit that eye-strain may occasion headache, mental depression and insomnia, few of us could recall cases in which the symptoms have been so profound as to lead to melancholia and suicide. That the sufferings thus produced may terminate in this tragic way is the claim of Pronger, Gould and other writers.—W. Zentmayer in *Ann. Ophth.*

Medical Economics

This Department Embodies the Subjects of Post-graduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

STATE REGULATION OF MARRIAGE

"The law of eugenics is this: like the seed is the harvest," says Dr. David Starr Jordan.[1] He further intimates that perhaps "love and initiative backed by good sense in choosing a wife" might be more effective in obtaining certain desired ends in the field of eugenics than would legislation for the same purpose.

Dr. Henry H. Goddard[2] objects to taking hasty steps in legislation with regard to eugenics, and suggests that present legislation be limited to devising a means for classification with regard to the present health status of a given community. By this means, he feels that a more thorough investigation can be made as to the result of certain marriages on which further legislation may be based, if such be deemed expedient. It is said[3] that there is no normal standard by which a defective or unfit person can be judged or to which he can be compared, and the question is asked, Where is the condemnation process to begin and end, who is to judge who the defective is, and what constitutes a defect, warranting an operation or the forbidding of marriage?

Again, it has been submitted[4] that the problem to-day is one of environment and not of marriage regulation; that the healthiest of persons can deteriorate in improper surroundings. Another editor says[5] "Let the slums be broken up, the rookeries be pulled down, young boys taken out of 'gangs' and provided with clean sport and honest work, and Nature will do the rest . . . the moral life of the world to-day is richer and finer than it ever was."

And, further, it has been argued that the right to procreate and propagate the species is an inherent one, identical with life itself, and that to abrogate this right is to do violence to a God-given natural right, which no constitution, government or law may rightly and safely take away; and that while the law may provide for the taking of life for life in defense of community life, no law can rightfully be enacted to curtail the right of the individual to reproduce, except perhaps as a punishment for statutory rape.[3]

The constitutionality[6] as well as the futility of such legislation is brought into question by the assertion that "such measures to be valid must provide a right of appeal, and that a trial by jury must be accorded." The latter, it is asserted, would be almost impossible, "as the man in the street is not influenced to any extent by the higher-plane ideal, since, usually, he is swayed by the facts of life and is withal distrustful of disinterested fervor."

John Stuart Mill[7] has said that ". . . the sole end for which mankind are warranted individually or collectively in interfering with the liberty of action of any of their numbers is self-protection. The only purpose for which power can be rightfully exercised among members of a civilized community against his will is to prevent harm to others. His own good, either physical or moral, is not a sufficient warrant. He cannot rightfully be compelled to do or forbear because it will be better for him to do so; because it will make him any happier; because in the opinions of others to do so would be wise or even right. . . . In the part which merely concerns the individual, his independence is of right absolute. Over himself, over his own body and mind, the individual is sovereign. . . . Secondly, the principle requires liberty of tastes and pursuits, or framing the plan of our life to suit our own character; of doing as we like subject to such consequences as may follow without impediment from our fellow creatures, so long as what we do does not harm them even though they should think our conduct foolish, perverse, or wrong. . . . The acts of an individual may be hurtful to others or wanting in due consideration of their welfare without going the length of violating any of their constituted rights. The offender may then be justly punished by opinion though not by law. . . . But there is no room for discussion when a person's conduct affects the interests of no person beside himself or need not affect them unless they like, all the persons concerned being of full age, and the ordinary amount of understanding. In all such cases there should be perfect freedom, legal and social, to do the act and stand the consequences."

On this point, Blackstone says:[8] "By the absolute rights of individuals, we mean those which are so in their strictest and primary sense; such as would belong to their persons merely in a state of nature and which every man is entitled to enjoy whether out of society or in it. But with regard to the absolute duties which man is bound to perform considered as a mere individual, it is not to be expected that any human municipal law should at all explain or enforce.

"In former times sumptuary laws were sometimes passed, and they were even deemed essential in republics to restrain the luxury so fatal to that species of government. But the ideas which suggested such laws are now exploded utterly, and no one would seriously attempt to justify them in the present age. The right of every man to do what he will with his own . . . is accepted among the fundamentals of our law."[9]

The maxim *Salus populi suprema lex*, according to Judge Barker[10] amounts to this: "Man in his natural state has a right to do whatever he chooses and has the power to do. When he becomes a member of organized society, under governmental regulation, he surrenders, of necessity, all of his natural right, the exercise of which is, or may be, injurious to his fellow citizens. This is the price he pays for governmental protection; but it is not within the competency of a free government to invade the sanctity of the absolute rights of the citizen any further than the direct protection of society requires."

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[1] Jordan, David Starr, Address before Leland Stanford Junior Medical School, Lane Hall, Feb. 7, 1913.

[2] Director Department of Research, New Jersey Training School for the Feeble-Minded.

[3] Vasectomy, Legislative Reference Bureau, Rhode Island State Library.

[4] Editorial, Springfield, Mass., *Republican*, Sept. 28, 1912.

[5] Editorial, Pottsville, Pa., *Chronicle*, Feb. 3, 1913.

[6] Editorial, San Antonio, Tex., *Light*, Feb. 1, 1913.

[7] Mill: John Stuart: Essay on Liberty, pp. 22 et seq.

[8] Blackstone: Commentaries, Book I, 123.

[9] Cooley: Constitutional Limitations, pp. 549-550.

[10] Commonwealth v. Campbell, 133 Ky. 50; 117 S. W., 383; 24 L. R. A., 172, N. S.

Thus the legislature of a state can regulate the matrimonial contracts of its own citizens, and may declare what persons may marry.[11] The qualifications in most general use are mental capacity, physical capacity, consanguinity or affinity, race or color and previous marriage; in a few states[12] health of a certain standard has recently been included.

While it is generally recognized that a state can prescribe conditions under which persons may marry, the cases,[13] nevertheless, seem without an exception to assert that such conditions must be "reasonable." The power of a state cannot be so exercised as to infringe arbitrarily or "unreasonably" on personal rights; the public good must be the objective in any such legislation; that is, the act must be for the prevention of some offense or manifest evil, or the preservation of the public health, safety, morals or general welfare. There must be a clear, real and substantial connection between the assumed purpose of the enactment and its actual provisions. The act must in some plain, appreciable and appropriate manner tend toward the accomplishment of the object for which the power is exercised. The sovereign power of a state cannot be used as a cloak for the invasion of personal rights.[14]

While the authorities carefully tell us that the conditions prescribed must be "reasonable," they are not so explicit in defining this term. Consequently we have some difficulty in determining as to the "reasonableness" of a statute requiring the filing of an affidavit certifying to a certain degree of fitness, as a prerequisite to the issuance of a license to marry.

Judge Marshall says[15] that what constitutes reasonableness "must necessarily be determined with reference to the exigencies of the particular situation. There is no certain test by which what is reasonable in any given case can be definitely measured. It is a matter resting in human judgment. It is said that an attempt to give a specific meaning to the word 'reasonable' is trying to count what is not number and measure what is not space. Reasonableness is not synonymous with expediency. Matters of that sort are wholly for legislative cognizance. As applied to means to a legitimate end, 'reasonable' suggests not necessarily the best or the only method, but one fairly appropriate at least under all the circumstances. In the ultimate, the scope of the term, as regards any situation, must be measured with regard to the fundamental principles of human liberty as they were understood at the time of the formation of the Constitution and were intended to be impregnably intrenched thereby, adapting the same course to our modern conditions. Those principles have not changed in the years that have elapsed since the Constitution was formed. They are unchangeable and are of no less, but rather of greater importance than they were when the framers of the Constitution attempted so carefully to guard them. 'Reasonable' as applied to a law is manifestly not what extremists on the one side or the other would deem, in the light of the principles referred to and the situation to be dealt with, fit or fair. It is what from 'the calm sea level,' so to speak, of common sense applied to the whole situation, is not illegitimate in view of the end to be attained. In determining that the court must look to the language of the statute and to all the facts bearing on the situation of which it may properly be said to know judicially because of their common nature, or otherwise. Common sense as to 'reasonable' requirements should prevail, not the extreme views of well-meaning persons as to what is best.

"Idealists will often find efforts to force their standard of living on people generally by legislation barred by constitutional limitations. An eminent author aptly said, 'There is a wide interval between the ideal and the practical.' If what is here said were not so, individual rights as to persons and property would be only such as sovereign power acting through the legislature might see fit to recognize. The inalienable rights commonly supposed to be sacred and inviolable would be changed into mere uncertain privileges, and regulation, so called, might easily become destructive of that which we have been wont to believe was essential to life, liberty and the pursuit of happiness.

"Again, we give to the individual the utmost possible amount of personal liberty; and with that guaranteed him, he is treated as a person of responsible judgment, not as a child in his nonage, and is left free to work out his own destiny. . . . The legislature should not indulge the temptation to infringe on the rights of citizens with experimental laws none the less dangerous because well meant."

But "liberty," says Justice Harlan[16] "the greatest of all rights, is not unrestricted license to act according to one's own will. It is only freedom from restraint under conditions essential to the equal enjoyment of the same right by others. Society based on the rule that each one is a law unto himself would soon be confronted with disorder and anarchy."

According to Justice Carter,[17] "the police power of a state is that inherent plenary power which permits it to prohibit all things hurtful to the comfort, welfare and safety of society." It is coextensive with self protection and is not inaptly termed the "law of overruling necessity."[18]

Attempts may be made to sustain such a clause on the same grounds that the courts have employed in upholding laws regulating intermarriage between the races.[19] It is submitted, as contradistinguished from this, that there is a distinct line of demarcation between forbidding miscegenation and a clause requiring all persons who desire to marry to submit themselves to a physical examination in order to preclude the evolution of hereditary defects, especially when it has not been proved "beyond a reasonable doubt" or even by a "clear preponderance of the evidence" that such a law would inhibit the natural instincts to such an extent as to abrogate the undesirables.

Again, supposing that the bills are so drafted that the clause in question is omitted, and that the statute ultimately enacted is based rather on the model of the Connecticut[20] and Washington[21] statutes, which go the length of forbidding the intermarriage of insane persons, epileptics and the like. It may then be argued that Gould *v.* Gould[22] conclusively decides the validity of such legislation. In reply it may be said that this opinion is "obiter dictum,"[23] since it was not necessary to pass on the constitutionality of the law in order to decide the case. Consequently, as Judge Hamersley[24] holds in his dissenting opinion, the question is still open, and the court might very well hold to the contrary, especially when the language of the statute is considered. This refers to "insane persons and feeble-minded persons, epileptics, etc.," which would seem rather uncertain wording to carry with it the extreme penalty which it does. Even in the opinion of the majority of the court there seems some little doubt, "to impose such a restriction on the right to contract marriage, if not intrinsically 'unreasonable,' is no invasion of the equality of all men before the law, if it applies equally to all, under the same circumstance, who belong to a certain class, etc." By this it can be seen that each statute will have to be considered alone, and it will stand or fall in just that extent with which it complies with the rule of 'reason.'"

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[11] 26 Cyc. 828, 842, and cases thereunder.
[12] Ohio, Washington, and others.
[13] Note, 2 L. R. A. 531, N. S. and cases.
[14] 22 A. & E. Encyc. of L. 938 and cases; 8 Cyc. 864 and cases.
[15] Bonnett v. Vallier, 136 Wis. 193; 116 N. W. 885; 17 L. R. A. 486, N. S.
[16] Jacobson v. Massachusetts, 197 U. S. 11.
[17] City of Belleville v. Turnpike Co., 234 Ill. 428; 84 N. E. 1049.
[18] McLean v. Arkansas, 211 U. S. 539; Ex Parte Quarg. 149 Cal. 79; 84 Pac. 766; 5 L. R. A. 183, N. S.
[19] Civil Rights, 7 cyc. 173; 34 Cent. Dig. Paragraph 26 Marriage; 8 cyc. 1074, Constit. L.; 10 Cent. Dig. Paragraph 716, Constit. L.
[20] Com. Pub. Acts 1895, Ch. 325, p. 667.
[21] Wash. Sess. L. 1909, Ch. 16.
[22] 78 Conn. 242; 61 Atl. 604; 2 L. R. A. 531, U. S.
[23] That is, the court in making the point has digressed from the true issue in the case. Therefore such a statement is to be given weight only in proportion to the legal acumen of the judge writing the opinion.
[24] Gould v. Gould, 2 L. R. A. 544-545 U. S.

As regards the possibility of enforcing such a requirement as that of the physician's certificate, the Commissioner of Health for Washington has recently said that the legislature of that state inserted such a clause in the bill as it was first enacted. The immediate result was that all the couples desiring to be married went to British Columbia, Oregon and Idaho. Consequently, on a special session of the legislature being called, the clause was repealed. The Commissioner aptly expresses the situation by saying that "it was a good law, but it didn't work."

The defect in the Washington statute might to a certain extent be corrected by inserting a provision forbidding citizens of any particular state who fall within the classes named to marry either within the state or without; for if marriage be subject to regulation at all, such a clause would be entirely within the sovereign power of the state.[25] But even such a provision would not entirely obviate the evil, for with our ever-shifting population it is an easy matter to acquire a "residence" in another state so as to become a "citizen" thereof, and thus come within the exception of the proposed Idaho law, for example. Then again it is not necessary even to leave the state to escape the end of the certificate. It would be quite simple to induce a physician to certify to the possession of perfect health without fear of detection or at least conviction, for the "falsely certifying" would have to be done "knowingly." With the technicalities which exist to-day, to say nothing of the loopholes afforded by the expert witness and the like, what chance would there be for a conviction? The court in ould *v.* Gould says that the case before them was the first in which the law was ever in question, which would seem to import that the statute had been practically lying dormant since the time of its passage, for the parties to the case had married despite the law, and the wife having learned of the existence of the statute was attempting to secure either an annulment of the contract or a decree of divorce. Could not this very well happen with any statute passed in any state?

The Washington statute designates certain classes who may not marry, forbids clergymen and other officers to knowingly perform a marriage ceremony, requires all persons desiring to marry to file an affidavit as to their health and the like with the county auditor, requires the consent of parents in the case of minors and provides a penalty for the violation of the law.

Connecticut and Minnesota have laws forbidding the intermarriage of persons who fall within certain classes, but the laws of neither state include persons afflicted with pulmonary tuberculosis and venereal diseases. Michigan, Delaware, New Jersey, North Dakota, Ohio and Kansas, among other states, have legislated along apparently similar lines. None of these laws has proved satisfactory or effective, and does not furnish the remedy for the evil.

During the present session of the legislatures and assemblies in the various states, numerous bills which in some way tend to the regulation of marriage have been either introduced or proposed for introduction.

The Idaho bill, consisting of thirty-six sections, repeals all previous legislation on the subject in that state. It defines marriage; states who may be parties thereto; designates certain conditions precedent which must be performed prior to the consummation thereof; names the grounds for divorce, and provides certain penalties for any violations of its mandates. For present purposes, however, only a portion of this well-considered measure is of immediate interest. This is the part which deals directly with the subject of eugenics.

Section 7 of the Idaho bill forbids the intermarriage of persons afflicted with insanity, feeble-mindedness, imbecility, epilepsy, syphilis, gonorrhea or with contagious venereal diseases; and also those who are common drunkards or addicted to habit-forming drugs, in Section 7 naming "opium, cocain or morphin," and in Section 12, Subdivisions 5 and 6, adding to this list "or other narcotic drug." The language as used in Section 7 is, "The following marriages are absolutely prohibited." Women over 45 are excepted under Section 7.

If, notwithstanding the above, a person should fraudulently conceal the facts and thereby induce another to enter into a contract of marriage, Section 9 then provides that the party so laboring under a disability shall be precluded from recovering any damages for failure on the part of the second party to complete the contract; and again, if the marriage be actually consummated, then, under Section 5, the party imposed on may avoid the contract in a suit for divorce.

Sections 11 and 17 to 25 prescribe the conditions to which all parties desiring to have the marriage status created must conform. By these sections the parties must be examined as to their physical and mental condition by a duly licensed practitioner, and a certificate as to their condition must be filed with the county recorder together with their application for a license. The parties must submit themselves to an examination on oath by the county recorder or the person who is solemnizing the marriage as to their names, age, health, etc., if such officials see fit. After a notice of the application has been published for fifteen days, and if the conditions are all fulfilled, the license will be issued and the marriage may be solemnized.

By Sections 15 and 30 to 34 certain penalties are provided for violations of the statute either by the parties themselves or by the ones who are to administer the various provisions of the act. A physician under Section 15 is denied the right to practice *ipso facto*, on a second conviction for certifying falsely to a person's health, but the "mens rea"[26] must be proved. The issuance of a license, the solemnization of a marriage and the making of false returns are constituted misdemeanors for which the accused on a conviction shall be fined in amounts varying from $50 to $200 and imprisonment of at least three months, in accordance with the offense. Finally, any person swearing falsely to any material fact shall be guilty of perjury, and on a conviction shall be punished in pursuance with the law.

California, in a proposed bill, has included a unique measure in permitting the intermarriage of persons within the usually prohibited classes, providing such persons will "submit to asexualization or are from any cause sterile."

Senate Bill 45 for the state of North Dakota proposes to change the law in that state by following more nearly that of the state of Washington.

Senate Bill 3 of Utah forbids indigent persons to intermarry, "unless it satisfactorily appears that the cause of such condition has been removed and that such male applicant is able to support a family and likely to so continue."

Among other states in which similar measures were introduced are Wisconsin, Colorado, Oklahoma, Indiana, Pennsylvania, Michigan, Ohio and Nebraska.

In conclusion, it may be said that any bill drafted with the intent of crystallizing the present theories of eugenics into law, must conform to the "rule of reason," as laid down by Judge Marshall in the Wisconsin decision quoted above. This is, that any restrictions on the acts of citizens must be "reasonable" restrictions. Unless this point is kept in mind in drafting bills on this subject, and if any extreme or unusual restrictions are incorporated in the bill, there is danger that the courts may declare the whole law unconstitutional on account of the "unreasonableness" of some provision, such as that requiring a physical examination as a prerequisite for a marriage license.

The idea of such a statute should be rather as a guide and for instructive purposes than to designate any definite method of procedure. Inculcating the principle of John Stuart Mill, it could be forbidden that certain classes intermarry and then leave it with each individual as to whether or not he dare tamper with the health and welfare of the coming generations, or himself sustain a possible injury through an unwise act. This would be tantamount to embodying the thought to which the women's clubs desire to give expression, and would meet the possible objections of those individualists who are ever fearful of a too extensive development of the paternalistic theory.

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[25] See Section 10 H. B. 44, Idaho.

[26] "Guilty mind," or "intent" to commit the act charged.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

DELAWARE: State Society and Homeopathic, Dover and Wilmington, June 17-19. Secretary of the Medical Council, Dr. Henry W. Briggs, 1026 Jackson St., Wilmington.

IOWA: Capitol Building, Des Moines, June 2-4; State University, Iowa City, June 5-7. Sec., Dr. Guilford H. Sumner, State House, Des Moines.

KANSAS: Topeka, June 10. Sec., Dr. H. A. Dykes, Lebanon.

KENTUCKY: Armory, Louisville, June 3-5. Sec., Dr. J. N. McCormack, Bowling Green.

LOUISIANA: New Orleans, June 5-7. Sec., Dr. A. B. Brown, 108 Baronne St., P. O. Box 1060.

MARYLAND: Regular, 1211 Cathedral St., Baltimore, June 17. Sec., Dr. J. McP. Scott, Hagerstown: Homeopathic, Baltimore, June 13-14. Sec., Dr. O. N. Duvall, 1817 N. Fulton Ave.

MICHIGAN: Ann Arbor, June 10-12. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.

MICHIGAN: Y. M. C. A. Bldg., Detroit, May 22-24. Sec., Dr. B. D. Harison, 504 Washington Arcade.

MINNESOTA: Pathological Laboratory State University, Minneapolis, June 3. Sec., Dr. Thomas McDavitt, Lowry Bldg., St. Paul.

MISSISSIPPI: Capitol Bldg., Jackson, June 3-4. Sec., Dr. E. H. Galloway.

NEBRASKA: Lincoln, May 28-29. Sec., Dr. C. P. Fall, Beatrice.

NEW JERSEY: Capitol Bldg., Trenton, June 17-18. Sec., Dr. H. G. Norton, 429 E. State St., Trenton.

NEW YORK: June 24-27. Chief of the Examinations Division, Harlan H. Horner, Department of Education, Albany.

NORTH CAROLINA: Morehead City, June 12. Sec., Dr. Benjamin K. Hays, Oxford.

OHIO: Columbus, June 2-5. Sec., Dr. George H. Matson, State House.

SOUTH CAROLINA: Columbia, June 10. Sec., Dr. A. Earle Boozer, 1806 Hampton St.

TEXAS: Austin, June 4-6. Sec., Dr. W. L. Crosthwait, Suite 1110 Amicable Bldg., Waco.

VIRGINIA: Richmond, June 24-27. Sec., Dr. Herbert Old, Norfolk.

WYOMING: State House, Cheyenne, June 25-27. Sec., Dr. J. B. Tyrrell, Laramie.

An Attempt to Organize Inferior Medical Colleges

An effort is apparently being made to induce acceptable colleges to join an organization having a high-sounding name but having as its chief object the perpetuation of discredited medical colleges and avowedly to oppose the Council on Medical Education in its efforts to secure reasonably high standards of medical education. A brief statement showing the incidents leading up to this organization will be interesting.

In March, 1912, an inspection was made of the Maryland Medical College by representatives of the Council on Medical Education, the United States Bureau of Education, Washington, D. C., and the Maryland State Board of Medical Examiners. Among other bad conditions it was found that students had been admitted without adequate preliminary training, and that others had been given advanced standing who had failed miserably at other medical schools. As a result of this inspection the college was rated in Class C by the Council on Medical Education and action was taken by the Maryland State Board of Medical Examiners withdrawing recognition from the school.

In January, 1913, the following letter was sent to a large number of medical colleges, particularly to those of Class C:

Maryland Medical College
Fayette and Calhoun Sts.
Baltimore, Md., January 31, 1913.

Dear Doctor:—

The American Medical Association seems to have determined that all unendowed medical colleges must close, and failing that, the Association is attempting to have State Laws passed, or to effect changes in existing laws, so that the requirements of the various State Boards will be such that it will be impossible for us to meet them

We feel that something should be done for mutual protection, and are writing for an expression of opinion as to the advisability of effecting an organization for that purpose.

This matter requires immediate attention, and you will greatly facilitate matters by an early reply. Respectfully yours,

Committee { B. P. MUSE, M.D.
PEARCE KINTZING, M.D.

A meeting was later called to be held in Chicago, Feb. 24, 1913. The following is a copy of an anonymous circular letter dated Feb. 18, 1913:

Albany, New York, Feb. 18, 1913.

WAKE UP!

Your Medical School along with many others is slated for annihilation by the A. M. A.—Colwell—Bevan—Simmons. In the State of New York alone only five schools are to be left.

In Wisconsin a school of 250 students was recently totally destroyed in less than a week by the above conspirators. When done there are to be left but 50 Medical Schools to be controlled by those who have undertaken to destroy the others.

In less than a year the plans for the acomplishment of this will be completed. Do you not think it is time to organize for your own protection?

A call has been made for all A. M. A. class B & C Schools to assemble at the Congress Hotel in Chicago on February 24th and discuss ways and means for the exposure of the unjust methods employed by the few A. M. A. Medical autocrats.

Will you send a delegation to this meeting? The enemy is organized and so will we be after this convention.

Yours very truly, Committee of Ten.

Feb. 21, 1913, this was followed up by the following night letter:

Expect large and enthusiastic meeting of medical colleges at Congress Hotel (not Auditorium) Chicago February 24th twelve o'clock noon. Send delegation.

B. P. MUSE.
PEARCE KINTZING,

The meeting was announced in the lobby of the Congress Hotel, Feb. 24, 1913, as follows:

Muse Medical College Committee Meeting,
Club Room 6, 12 M. and 8 P. M.

The following correspondence carried on recently is interesting in connection with the preceding:

Bennett Medical College
1358-1362 Fulton Street
Chicago, April 13, 1913.
John Dill Robertson, M.D.
President Board of Trustees.

Dr. James R. Day, Chancellor, —
Syracuse University,
Syracuse, N. Y.

My Dear Chancellor:—

At the suggestion of Dr. ———, Dean of the ——— Medical College of ——— I am writing you to determine at what date Dr. ————, Dr. ————, and myself can visit you in Syracuse in regards to an association known as the American Association of Medical College Faculties which was determined upon at a recent meeting of about twenty five medical colleges in the United States. Representatives of these colleges met in Chicago in February and decided upon this organization, the object of which is to make a closer union between the teaching bodies of the various institutions, to study different methods of pedagogy in medical schools, and to *combat the unfair treatment given to many of the medical schools in the United States by the Council of the American Medical Association*. [Italics ours.—ED.]

This organization is made up of schools of classes A, B, C, of the A. M. A. classification. We desire to confer with you looking toward securing your active support in this organization, and if you think it will be worth while for us to call upon you in Syracuse along the lines above mentioned we would be pleased to make the trip. If, on the other hand, for any reason it will be impossible for you to join with us in this organization I would thank you for a candid statement to that effect.

Hoping to hear from you at the earliest possible moment, I beg to remain. Very truly yours.

JOHN DILL ROBERTSON.

The following "candid statement" was sent:

The College of Medicine of Syracuse University
307-311 Orange St.
Syracuse, New York, April 16, 1913.

Dr. John Dill Robertson
Bennett Medical College
Chicago, Ill.

My Dear Doctor:—

Chancellor Day has referred your letter concerning the proposed American Association of Medical College Faculties to me.

This school has been interested only in pushing forward to the utmost the science of medical education. The position which we have earned in the opinion of medical educators is entirely due to the unselfish devotion of the faculty to these ideals of medical education. We have felt that the education departments of the states and of the nation have lagged behind rather than advanced too rapidly. We have, therefore, no interest in the proposition "to combat the unfair treatment given to many of the medical schools in the United States by the Council of the American Medical Association." Very truly yours,

JOHN L. HEFFRON,
Dean.

It may be interesting at a later date to publish the membership in this association.

District of Columbia January Report

Dr. George C. Ober, secretary of the Board of Medical Supervisors, reports the written and oral examination held at Washington, Jan. 14-16, 1913. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75. The total number of candidates examined was 16, of whom 15 passed and one withdrew. The following colleges were represented:

College	PASSED Year Grad.	Per Cent.
George Washington University	(1912) 83.4, 86.9, 89.7, 90.6,	90.6
Georgetown University	(1911) 81.9; (1912)	91.2
Howard University	(1911) 86.8; (1912) 82.4,	88.2
Bennett Medical College	(1913)	77.3
Boston University	(1892)	76.1
Long Island College Hospital	(1912)	93.1
Medico-Chirurgical College of Philadelphia	(1908)	86.2
University of Virginia	(1908)	75.3

Idaho April Report

Dr. O. J. Allen, secretary of the Idaho State Board of Medical Examiners, reports the written examination held at Boise, April 1-2, 1913. The number of subjects examined in was 11; total number of questions asked, 110; percentage required to pass, 75. The total number of candidates examined was 8, all of whom passed. The following colleges were represented:

College	PASSED Year Grad.	Per Cent.
College of Physicians and Surgeons, Baltimore	(1909)	83
St. Louis College of Physicians and Surgeons	(1906)	81
St. Louis University	(1913)	79
Washington University, St. Louis	(1907)	82
Central Medical College, St. Joseph	(1900)	80
Creighton Medical College	(1912) 83,	85
Medical College of Ohio	(1901)	85

Minnesota April Report

Dr. Thomas S. McDavitt, secretary of the Minnesota State Board of Medical Examiners, reports the written examination held at Minneapolis, April 1-4, 1913. The number of subjects examined in was 18; total number of questions asked, 110; percentage required to pass, 75. The total number of candidates examined was 8, of whom 5 passed and 3 failed. Nine candidates were licensed through reciprocity. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
College of Physicians and Surgeons, Chicago	(1912)	86
University of Minnesota, Medical School	(1912) 84,	88
Queens University, Kingston, Ontario	(1911)	77
Royal College of Surgeons, England	(1908)	87
FAILED		
Marquette University	(1909)	73
Laval University, Quebec	(1912)	70
University of Paris, France	(1894)	72

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Northwestern University Medical School (1908)	(1911)	Illinois
College of Physicians and Surgeons, Chicago	(1912,2)	Illinois
Rush Medical College (1911)	(1912)	Illinois
Hamline University	(1908)	Wisconsin
Miami Medical College	(1906)	Ohio
Western University, London, Ontario	(1899)	Nebraska

Book Notices

OPERATIVE OBSTETRICS, INCLUDING THE SURGERY OF THE NEW-BORN. By Edward P. Davis, A.M., M.D., Professor of Obstetrics, Jefferson Medical College, Philadelphia. Cloth. Price, $5.50 net. Pp. 483, with 264 illustrations. Philadelphia: W. B. Saunders Co., 1911.

The author aims to give a concise statement of present methods of operating. The material has been arranged with respect to pregnancy, labor and the puerperium, the three physiologic divisions in obstetrics, with a final division comprising the surgery of the new-born.

Preliminary to this are a few chapters on general subjects. The anatomy of the parturient tract in pregnancy, in labor and in the puerperium, and the condition of the birth-canal with respect to asepsis are first discussed. The prevention of obstetric hemorrhage and a consideration of the pregnant woman as a surgical patient, are next taken up. In the chapter devoted to anesthesia a preference is shown for ether. A compilation of results for the use of anesthesia by lumbar puncture makes against, rather than for, this method. The author directs attention particularly to the danger of general anesthesia in highly toxic patients and in those in acute anemia. The technic of obstetric operations as conducted in the hospital and in the private home concludes this portion of the work.

The chapters devoted to the surgery of pregnancy discuss such conditions as uterine displacements, tumors of the uterus, and pathologic development in the appendages. Conservative treatment is advised in fibromyomas, though the author advises prompt removal of a definite ovarian growth, no matter what the period of pregnancy may be. Since such good results are now obtained by cesarean section and pubiotomy, the induction of premature labor is not thought of so highly, and it should never be advised as the safest operation for the infant. Methods of rapid and forcible dilatation of the uterus are described, but in the unaltered cervix, as in the primipara before labor, the uterus should be opened by incision and never by dilatation. Operations on the appendix, the gallbladder and the kidneys are briefly referred to. Ectopic gestation is discussed almost entirely from the technical point of view.

The greater portion of the volume is occupied by a consideration of the various operative procedures made necessary by complications of labor itself. Indications for the use of the forceps in extraction are not set forth so clearly as desirable in a text-book. The axis-traction instrument is well described, and after mentioning Pajot's maneuver and the use of tapes with ordinary forceps as substitutes for an axis-traction instrument, the author is careful to state that such appliances are unsatisfactory and to be used only in the absence of something better. Repeated expression throughout the volume is given to sound common sense and logic, demonstrating that the author's opinions and teachings are based on close observation during an extensive experience. In general the volume represents an essential part of obstetric literature presented in a brief and practical form. Illustrations are profuse, and excellently perform their part in illuminating the text. One of the most valuable features is the extensive bibliography immediately following the discussion of each subject. A carefully prepared index completes the volume.

AFFEKTSTÖRUNGEN. Studien über ihre Aetiologie und Therapie. Von Dr. Med. Ludwig Frank, Spezialarzt für Nerven- und Gemütskrankheiten in Zurich. Paper. Price, 16 marks. Pp. 399. Berlin: Julius Springer, 1913.

The author reports a series of fifty-six cases of the various neuroses and psychoneuroses under the all-embracing name "disturbances of the affects." Formerly a disciple of Freud, he has ceased to follow him, because the leader has adopted too swift a pace. In this work we see Freud half way: the mental catharsis under mild hypnosis is utilized to unearth and abreact the buried complexes, but nothing more is done. For the author there exist numerous unpleasant complexes—not necessarily of sexual origin—which have been repressed and dissociated from consciousness, but which he endeavors to synthesize with the conscious ego. He believes, as Freud formerly did, that the symptoms of the neuroses disappear after the parasitic complexes have been cast out from the subconscious. Satisfied with the results he obtains by the hypnotic method, he does not apply the so-called free associations of Freud, or Jung's word-association tests, except in rare instances. In addition he takes a decided stand against the great emphasis laid by the Freud school on the sexual element of everything pertaining to the psychoneuroses. In short, he is only mildly Freudian. The case histories are worth reading; also their interpretations. While the charm of sensationalism is absent in this monograph, it creates the more lasting impression of truth and conservatism.

CHLORID OF LIME IN SANITATION. By Albert H. Hooker, Technical Director, Hooker Electrochemical Company. Cloth. Price, $3. Pp. 231. New York: John Wiley & Sons, 1913.

The use of chlorinated lime (chlorid of lime) in the purification of water-supplies dates back hardly four years; yet the method has attained wide use for this purpose and for various other disinfecting purposes. This book has been prepared by the research department of the Hooker Electrochemical Company of Niagara Falls primarily, perhaps, for commercial reasons; but it represents an excellent summary of the knowledge concerning chlorinated lime and its use for the disinfecting of water-supplies, sewage and many other purposes. Among the valuable suggestions in the book for extending the use of chlorinated lime are those concerning street-sprinkling, the prevention of the breeding of flies in garbage, manure, etc., and various uses about the farm and in the dairy, as in the disinfecting of milk-cans and bottles. In addition, there are nearly 150 pages of abstracts and references to articles on water-pollution, sewage-disposal and a host of other allied subjects of public sanitation.

THE SOLDIER'S FOOT AND THE MILITARY SHOE. A Handbook for Officers and Non-Commissioned Officers of the Line. By Edward Lyman Munson, A.M., M.D., Major, Medical Corps, United States Army. Cloth. Price, $1.35. Pp. 147, with 54 illustrations. Fort Leavenworth, Kan.: United States Cavalry Association, 1912.

Major Munson, who has been president of the Army Shoe Board for four years, gives the results of the studies and investigations of the board, including the critical study of the feet of about two thousand soldiers, and the fittings of many thousands of pairs of shoes. In the chapter on foot injuries and marching capacity, it is demonstrated that a large portion of injuries common to marching troops in number, extent and gravity are unnecessary, and are preventable by simple measures. The chapter on the anatomy and use of the foot is well within the grasp of the layman, and forms an excellent introduction to the study of the fitting of military shoes. The adoption and thorough application of the principles laid down in this work will materially increase the efficiency of the soldier, as the endurance of a marching man is dependent on his feet.

THE DEATHS OF THE KINGS OF ENGLAND. By James Rae, M.A., M.D. Cloth. Price, 4 shillings 6 pence. Pp. 152. London: Sherratt & Hughes, 1913.

This little book contains a brief account of the deaths of the sovereigns of England. In each case the author has gone to the original source for his information and has tried to reach a conclusion as to the nature of the disease that seems warranted by the facts. It is well known that some of the facts concerning the earlier rulers were indefinitely stated and that vague notions as to disease prevailed. A diagnosis, therefore, expressed in modern terms, is little more than a shrewd guess. Some of the author's deductions are, as he himself realizes, rather fanciful. His suggestion that Henry IV. died of a gumma of the bundle of His does not seem to us so far-fetched as that one of the visions seen by Elizabeth, the vision of a man in a flame, is most probably explained by xanthopsia from jaundice due to her starvation.

HOUSEHOLD BACTERIOLOGY. For Students in Domestic Science. By Estelle D. Buchanan, M.S., and Robert Earle Buchanan, Ph.D., Professor of Bacteriology, Iowa State College. Cloth. Price, $2.25 net. Pp. 536, with 360 illustrations. New York: The Macmillan Company, 1913.

Bacteriology, in its relation to domestic science, should prove of interest to this class of students, especially in view of the fact that the yeasts and molds are discussed more fully than is customary in most texts. The book is divided into five sections: (1) "Morphology and Classification;" (2) "Cultivation and Observation of Micro-Organisms;" (3) "Physiology;" (4) "Fermentations;" (5) "Relationship of Micro-Organisms to Health." The last division, embracing nearly half the book, deals with the preparation and preservation of foods, household sanitation and personal hygiene, thus emphasizing rather forcibly that phase of bacteriology.

Medicolegal

Duties and Compensation of Health Officers—Substitutes Not Allowed

(Hickman County vs. McMorris (Ky.), 147 S. W. R. 768)

The Court of Appeals of Kentucky reverses a judgment sustaining an allowance of a claim presented by Dr. McMorris. The court says that the services were rendered during the latter part of the year 1910, and during the early part of the year 1911, when Dr. McMorris, acting by order of the county board of health, established a number of quarantines, and fumigated the premises of certain persons afflicted with scarlet fever and small-pox, which had become epidemic in the community. The circuit court found the facts substantially to be that the county board of health, regularly organized, had, up to February, 1911, elected a Dr. Scarborough secretary of the board at an annual salary of $50 per annum, and that Dr. Scarborough refused to perform the duties of that office for that salary. The board then directed Dr. McMorris to perform the services charged for, which he did, and his charges were reasonable and just. From this statement of fact the circuit court concluded that the law authorized the board of health to employ another than the county health officer to perform those duties in cases of emergency when the duly elected secretary failed to perform them. The Court of Appeals agrees with the circuit court that the evidence was sufficient to show that the particular services for which an allowance was claimed were authorized by the county board. It also concludes that services rendered in fumigating premises of those afflicted with contagious diseases and establishing necessary quarantines, even though the persons afflicted with the disease were solvent, were services for which the county was liable, as such measures are not taken for the individual benefit of the particular patient, but to prevent the spread of the disease, and are therefore for the benefit of the public generally.

May the county board of health, while there is a regularly appointed health officer in office, who refuses to perform the duties of the office, impose the performance of his duties on another physician, and make the county liable for the payment of the latter's services? Manifestly not. When Dr. Scarborough resigned as health officer on the ground that he was unwilling to perform the duties of that office for the compensation fixed by the fiscal court, the county board of health should have accepted his resignation. It had no right to let him continue in office and delegate his duties to another; nor did Dr. Scarborough have the right to hold the office, and at the same time refuse to perform the duties thereof. Even if he had not resigned, it was the duty of the county board of health to remove him and appoint another in his place, who would perform the duties of the office. The statute plainly provides that the fiscal court shall fix the salary of the health officer at the time of or immediately after his election, and that in no state of case shall such health officer claim or receive from the county any compensation for his services other than the salary fixed by the fiscal court. This provision of the statute cannot be evaded by letting the health officer remain in office without performing the duties of the office, and then delegating to another the performance of those duties and allowing him compensation therefor.

But it was claimed that, under this view of the law, the fiscal court may fix the salary of the health officer so low that no one will perfom the duties of the office, and thus defeat the very purpose for which the county boards of health are established. This court has held, however, that the salary fixed for the health officer must be reasonable, and that from an order of the fiscal court fixing the salary an appeal lies to the circuit court and thence to this court. Under these circumstances, the court thinks there will be no difficulty in securing the services of a competent health officer, even though the fiscal court should make the salary unreasonably low, for, on making this fact appear, the necessary relief will be afforded either in the circuit court or this court. If it be argued that, owing to the uncertainty as to the amount of salary the health officer is to receive, no one will undertake the duties of the office, it is a sufficient answer to say that the members of the fiscal court are charged with the duty of fixing a reasonable compensation for the health officer, and no doubt the fact that for a failure in this respect, resulting in an epidemic in the community, they will be answerable to their constituents, who will not continue in office men who are so unmindful of the health and welfare of the people, will be a sufficient reason why they should act justly and properly, aside from the fact that their action will be reviewed by a higher court.

As $213 of the amount of Dr. McMorris' claim was for services rendered while Dr. Scarborough was the health officer, it followed that he was not entitled to recover that sum. Nor was he entitled to recover the remainder of $69 for services performed after his appointment as health officer, as his claim for the latter sum will be included in whatever salary the fiscal court may have fixed for his services. If no salary has heretofore been fixed, the fiscal court will fix the salary at a reasonable sum.

Pulmonary Consumption Not Ground for Divorce

(Abramowitz vs. Abramowitz (N. Y.), 140 N. Y. Supp. 275)

A special term of the Supreme Court of New York, King's County, denies, with costs, a motion for alimony and counsel fee in the plaintiff wife's action for separation on the ground of cruelty and conduct rendering it unsafe for her to cohabit with the defendant. The court says that the parties intermarried on May 5, 1912, and the wife returned to her parents after five days. She based her charge solely on the fact that the defendant's state of health was such that it was "impossible, unsafe, and unhealthy for her to cohabit with him." She said that he was troubled with a violent cough at night accompanied by expectoration of blood, and that the physician called in attendance stated that it "was caused by hemorrhages," but the affidavit of the physician who made so discriminating a diagnosis was not furnished for the enlightenment of the court. Unless the plaintiff produced on this motion sufficient evidence to afford a reasonable ground for the belief that she could eventually succeed in her action, she was not entitled to alimony pending litigation or for expenses. Would the facts stated in the complaint, therefore, if true, warrant the inference of legal cruelty, under subdivision 1, or unsafe conduct under subdivision 2 of section 1762 of the New York Code of Civil Procedure?

Whatever may be the rule in other jurisdictions, the court is unaware of any authority in New York state which holds that disease of the character mentioned is sufficient cause for separation from bed and board. Assuming for the sake of the argument that the facts so insufficiently and inartificially pleaded pointed to the existence in the defendant of the disease commonly known as pulmonary consumption, which is very generally held to be both communicable and dangerous to health, its existence prior to the time of the marriage was not claimed, nor that any false representations as to the defendant's state of health were made so as to induce the plaintiff to wed, though, of course, had there been, it would not be available in the present form of action. The plaintiff apparently had as ample opportunity for making inquiries as to the health of the defendant before marriage as she had as to his earning capacity. Perhaps the exercise of as great caution regarding the former as was paid to the latter consideration would have saved both parties trouble and unhappiness.

So far as the court has had time to investigate the law in New York state, there is only one form of disease which the courts have thus far recognized as sufficient for a decree of separation on the ground of legal cruelty, and this only when that particular disease is knowingly or wilfully communicated. Anonymous, 17 Abb. N. C. 231. And, if disease of other sorts be not regarded as ground for separation under subdivision 1 of section 1762, no more does it constitute "such conduct on the part of the defendant to the plaintiff as may render it unsafe and improper for the former to cohabit with the latter," under subdivision 2. Conduct as here employed refers to a course of dealing on the husband's part, a continued purpose evidenced by action, and it implies intentional and wilful acts, not merely those which are involuntary or unintentional, or from the effects of which he himself cannot escape. If during marriage disease attacks one of the spouses, it is not the one so afflicted who is guilty of legal cruelty. It is rather the other one who seeks on that ground a judicial separation.

Society Proceedings

COMING MEETINGS

American Medical Association, Minneapolis, June 17-20

American Academy of Medicine, Minneapolis, June 13-15.
Amer. Medico-Psychological Assn., Niagara Falls, Can., June 10-13
American Proctologic Society, Minneapolis, June 16-17.
Arizona Medical Association, Globe, May 20.
Arkansas Medical Society, Little Rock, May 20-23.
Connecticut State Medical Society, Hartford, May 21-22.
Illinois State Medical Society, Peoria, May 20-22.
Maine Medical Association, Portland, June 25-26.
Massachusetts Medical Society, Boston, June 10-11.
New Jersey Medical Society, Spring Lake, June 10-12.
North Carolina State Medical Society, Morehead City, June 17.
Rhode Island Medical Society, Providence, June 5.
South Dakota State Medical Association, Vermilion, May 27-29.
West Virginia State Medical Association, Charleston, May 21-23

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS

Ninth Triennial Session, held at Washington, D. C., May 6-7, 1913

The President, Dr. William C. Gorgas, Ancon, C. Z., in the Chair

THE STUDY OF RENAL FUNCTION

Its Clinical Importance

Dr. Henry A. Christian, Boston: Renal function is of interest to physician and surgeon alike, since organic and pathologic changes make it important to know how the kidneys are functioning concomitantly and singly in order that the proper remedial measures may be applied and to determine the advisability of surgical intervention. In the diagnosis of pathologic lesions of the kidney, functional tests may be expected to yield information on two points: 1. Are the kidneys diseased? 2. What type of pathologic lesion do they show? A review of the methods of testing renal function by measuring the excretion of salts, water, lactose, potassium iodid and phenolsulphonephthalein, by measuring the retention of non-protein nitrogen in the blood, by the determination of diastase in the urine, by determining indican in the blood or by estimating urinary acidity, shows that great aid has been given clinically in determining whether or not the kidneys are diseased, but that distinctly less help has come in answering the second question as to what type of lesion the kidney shows. As in all forms of clinical diagnosis, diagnosis must be based on the data not on a single test but of many. In this sense functional tests have yielded new data, and a discriminating evaluation of these new data, along with a consideration of data furnished by other methods of examining patients already long in use, justifies us in making an estimate of renal condition with increased certainty. We can expect fewer failures in such diagnosis than before we had these functional tests, but so long as increased study fails to yield a demonstrable anatomic change to correspond with all observed functional variations, so long shall we remain unable to make anatomic diagnoses which in most cases will prove to be correct when the pathologist examines the kidney.

Prognostic Value

Dr. L. G. Rowntree, Baltimore: All the tests for determining renal function proved of value. Functional studies reveal only the excretory capacity of the kidney, but do not make the diagnosis or settle the prognosis. They should be used as a matter of routine in conjunction with other procedures. When the phthalein test reveals decreased renal capacity, one of the blood tests, urea, rest, nitrogen or cryoscopy should be employed to determine the presence or absence of cumulative phenomena. Dye substances other than phthalein need not be employed prognostically since they yield less quantitative and less reliable results and add nothing to prognosis. The phthalein test is the one for general use under all conditions. Its findings can be verified and its indications strengthened by the employment of selected tests in different conditions. The iodid and salicylate tests are not of great prognostic value. Lactose is unreliable, since its total suppression occurs in moderate lesions of a given type, but suppression in chronic nephritis indicates a severe lesion. The urea is of value only in relation to unilateral renal disease. Phloridzin has a tendency to exaggerate the degree of functional injury, and hence it is not of great value. Salt in a marked tubular hyposthenuria carries much prognostic significance: otherwise the chlorids are of only slight prognostic value. If, with the water test, a very marked oliguria or anuria persists, it is of significance. Diastase may be depressed tremendously in moderate degrees of renal injury, while at other times it is not affected proportionately to the injury, and hence it is not reliable for total capacity. In unilateral cases the diseased kidney is correctly indicated. The value of total coagulable nitrogen and of urea in the blood has been enhanced by the introduction of newer and more accurate methods by Folin and Marshall. These tests can be used interchangeably and have about the same value. Increased concentration of these substances does not always occur in severe renal involvement, and therefore their normal concentration in the blood does not indicate normal kidneys. Their increase signifies renal injury, and the extent of the increase is of extreme value in determining the extent of the injury. They are not of value in determining the diseased kidney when only one is involved. Cryoscopy occupies a similar position with about the same significance. A study of the combinations of these tests is needed in order to determine the extent of parallelism in their findings. With cholesteremia we have had no experience.

Its Bearing on Treatment

Dr. Theodore C. Janeway, New York: From a broad point of view, the phenolsulphonephthalein test, and the less satisfactory ones which it has replaced, has greatly contributed to the effectiveness of the treatment. The internal treatment of renal disease has made definite progress along two lines: 1. The study of experimental nephritis in animals has made clear the existence of isolated disturbances in the excretion of individual constituents of the urine, and the existence of definite types of abnormal reactions of the diseased kidney to stimuli. These have been found to have their counterparts in human nephritis. 2. The accurate study of the salt and water exchanges in human nephritis and their relation to edema has resulted in a precise and scientific method of treatment which is highly effective in certain types of renal disease. Vascular hyposthenuria must be sharply differentiated from the hyposthenuria due to primary disturbance in the ability to secrete sodium chlorid. This discrimination is of real importance in the management of clinical nephritis.

Closely allied to this state of irritability of the vessels is their susceptibility to fatigue. This factor, like the phenomenon of vascular overirritability, should never be overlooked in treatment. It justifies the custom of giving caffein diuretics intermittently and in comparatively small doses. When a diuretic of this type is needed I use theocin. The initial dose of these drugs should always be small because of the possibility of constriction resulting. The response of the kidney vessels to digitalis seems to follow somewhat the same laws. Inasmuch as such a drug as digitalis will produce dilatation of the kidney and constriction of the remaining splanchnic vessels, it seems not impossible that polyuria and hypertension are in their fundamental pathogenesis identical. In these vascular types of nephritis I urge the use of water and the common beverages. Water tests are most important guides to treatment, especially in the convalescent stage of acute nephritis. In tests for the excretion of water there should be absolute uniformity in the salt intakes. Therapeutic means of combating nitrogen retention are conspicuous by their absence, aside from enforcing a physiologic economy of protein on general principles. The observation of the uncoagulable nitrogen of the blood is of great importance prognostically, though it does not make the outlook any the less grave. In the same way the phenolsulphonephthalein test cannot serve in any way as a guide to treatment. In chronic passive congestion of the kidney it may frequently afford a most useful measure of the degree of improvement in kidney function during treatment.

The same considerations hold good for Wohlgemuth's tests for diastase. The treatment of edema is much more satisfactory. The salt-poor diet remains the most effective measure in the treatment of edematous types of subacute and chronic nephritis. With the restoration of kidney function and the absorption of edema, I have observed the return to normal of greatly delayed potassium iodid excretion. The potassium iodid test gives an interesting sidelight on kidney function and its restoration in these cases. What constitutes normal elimination depends on the test employed. I have been using the von Monakow test with starch paste and nitric acid, which makes forty-four hours the upper limit. The one essential guide to treatment, as Widal's studies have shown, is the absolute salt balance. It is immaterial practically, though highly important theoretically, whether the cause of the salt retention is in the tissues or in the kidneys. Salt and water are retained and the edema is largely dependent on this fact. The graphic record of daily salt intake and output, with the weight curve, permits of exact knowledge concerning the degree of salt retention.

The management of the salt intake in such cases of renal edema is altogether analogous to the management of the carbohydrate intake in mild diabetes. As long as edema persists, the salt of the diet should be kept at a minimum. After the absorption of the edema the ability to excrete added salt should be tested occasionally, and the increase in intake governed accordingly. By the exact estimation of sodium chlorid tolerance and the adjustment of intake at a point below the ability of the kidney to excrete salt, chronic cases may be kept free from edema over long periods of time, even when functional recovery is not complete. At the same time, the management of the water balance demands equal attention. This is of special importance in acute nephritis. Intelligent care is possible only with the use of graphic records of water and of salt intakes and outputs. The relation between intake and output in both substances is of more importance than absolute amounts. Not the least contribution which the study of renal function has made to the treatment of nephritis is its method of visualizing the actual response of the kidney to the therapeutic measures from day to day.

President's Address: Sanitation at Panama in Its Relation to Sanitation in the Tropics Generally

Dr. William C. Gorgas, Ancon, C. Z.: Panama, in 1904, when the United States began the construction of the Panama Canal, was universally looked on as being one of the most unhealthful spots in the tropical world. That this reputation was not undeserved, but was warranted by the facts in the case; that the sanitary measures put into effect by the United States have enabled the constructors of the canal to proceed for the past nine years with no greater loss from death than would have occurred if the same work were being carried forward in most parts of the temperate zone; that this work has been accomplished at no very great expense; that, therefore, similar results can be obtained either by communities or individuals in any part of the world or tropics, is my argument. In November, 1905, the last case of yellow fever occurred in the City of Panama, and in May, 1906, the last case in Colon. During 1906 the Sanitary Department was raised to its maximum efficiency and in May, 1907, the sanitary work had been accomplished. The death-rate from disease among employees has been as follows: 1906, 39.51; 1907, 24.50; 1908, 8.68; 1909, 7.55; 1910, 7.50; 1911, 7.65; 1912, 6.37. These figures demonstrate that by 1908 there was a force of 38,000 employees on the Isthmus who were working in the sun, rain and weather at the hardest kind of labor, with a death-rate from disease of 8.68, not any greater than among similar men doing the same work in the United States.

It is interesting to speculate on what would have taken place if the President and the Secretary of War had acted in accordance with the recommendations of the executive committee and decapitated the men in charge. The methods used were based on the belief that yellow fever is a disease due to filth. By December, 1906, we had 9,000 non-immune connected with the commission, of whom 6,000 were Americans. It is probable that half of these would have died of yellow fever had sanitation remained as it was in 1905. This would probably have involved a suspension of the work till conditions could be corrected, thereby causing a delay in the completion of the canal of at least two years; probably public opinion would not have supported a project that involved such loss of life, and the work would have been delayed indefinitely. The actual expense of the measures that have accomplished these results has not been large, about $365,000 per year, or about one cent per day per capita. The expense of sanitation in the Isthmus is frequently spoken of as being large. This comes about from the fact that official reports give the expense of the sanitary department as having averaged $1,600,000 a year. Naturally in reading this report one assumes that the expense of sanitation and the expense of the sanitary department are synonymous; but not more than one-fifth of the expense of the sanitary department is involved directly in the measures that have resulted in the eradication of yellow fever and the control of malaria. More than half the expense of the department is involved in the care of the 1,800 sick that we have had constantly on hand. It is quite evident that if people can be protected against tropical diseases or conditions in Panama, the same thing can be accomplished in any other part of the tropics. The results at Panama are so in the limelight that they are attracting attention from all parts of the tropics.

(To be continued)

NATIONAL ASSOCIATION FOR THE STUDY AND PREVENTION OF TUBERCULOSIS

Ninth Annual Meeting, held May 8-9, 1913, in Washington, D. C.

The President, Mr. Homer Folks, New York, in the Chair

The Tuberculosis Problem of the Country and Small Towns

Dr. Charles S. Prest, Waterford, N. Y.: The prevention of tuberculosis in the country and small towns is a man's job in the fullest degree and requires just as much, if not more, thought, experience, judgment, persistence and money per capita as in any large city. The difficulties that are met arise from the less highly developed local government, less expert and effective health officials, less inclination to be governed, less voluntary organization for practical social work, greater opposition to even temporary increased taxation, and the deep-rooted ignorance and belief in the heredity and fatality of tuberculosis. The ignorance in the country districts concerning tuberculosis is appalling. The education of the rural population concerning ventilation, the dangers of overcrowding, cleanliness of person and surroundings, the extent of the disease, its means of prevention, etc., is one of the most important phases of the work that can be undertaken, as well as the most difficult. The problem presents two features of surpassing importance: early diagnosis and adequate supervision. The one hangs on the other whichever way you take it—early diagnosis that adequate supervision may be possible, and adequate supervision, in order to secure early diagnosis.

The Tuberculosis Preventorium

Dr. Alfred F. Hess, New York: The preventorium may be called the latest development of the antituberculosis movement. The first to be founded is that at Farmingdale, N. J. Tuberculosis is implanted generally during childhood, and must be combated before adult life. The preventorium was designed to care for the most needy group of subnormal children, those who are not only poorly nourished, but also exposed to tuberculous infection in their homes. These children of the tuberculous poor are not only predisposed, but actually exposed to tuberculosis. The preventorium takes 600 of these children a year, gives them good food, a twenty-four-hour day in the open air, an intimate acquaintanceship with the fields and the woods, and practical lessons in hygiene. A two-hour school period is sufficient to keep the children up to grade. During the stay of from three to six months at the preventorium, the home condition of the children is investigated, the tuberculous father or mother is sent to a sanatorium, instruction is given as to cleanliness and hygiene, and relief is obtained when necessary from existing charitable societies. Every six months after discharge these children are visited, their condition is ascertained, and, if necessary, a second visit to the preventorium is advised. The children have so far conserved their gains in weight and strength remarkably well.

Ultimate Results in Patients Discharged from the Mont Alto State Sanatorium in 1908 and 1909

Dr. Albert P. Francine, Philadelphia: In 1908 and 1909 there were discharged from the Pennsylvania State Sanatorium at Mont Alto 399 tuberculosis patients whose homes were in Philadelphia. A careful personal study of each of these patients made in January and February, 1913, developed the fact that the majority of them had been able, after an average stay of six months at the sanatorium, to return to their regular work on full time and full pay, and that they had been working since their return for over two years. In those cases in which there had been a relapse after the return of the patients to the city, the relapse was usually the result of entering the sanatorium with the disease too far advanced. Almost all of those who went to the sanatorium in time are alive and well.

A Method of Finding Early Cases of Tuberculosis

Dr. Harry Lee Barnes, Wallum Lake, R. I.: About 50,000 persons with new cases of tuberculosis are constantly drifting over the country for long periods without even consulting physicians. Before they are found many of the patients become incurable and infect others. The significance of blood-spitting, pleurisy, chronic cough and night sweats should be well known to the public. A large percentage of the people have no definite idea about the various state and municipal sanatoriums or what consumptives may hope for by entering them. States and municipalities having sanatoriums ought to advertise them enough to let the people know what they can do. The ease with which consumptives can be influenced by advertising is well shown by the sale of consumption "cures." The sale of patent medicines advertised to benefit consumption has exceeded 17,000 bottles in Rhode Island in one year, an average of seventeen bottles for each death from tuberculosis. We should describe the early symptoms of tuberculosis in newspaper advertisements until they are stereotyped on the brain of everyone who can read.

Treatment of Progressive Cases of Tuberculosis

Dr. Mary E. Lapham, Highlands, N. C.: The future treatment of progressive cases of pulmonary tuberculosis must be surgical rather than medical. There are two well-defined, distinct classes of the tuberculous, those who recover, and those in whom from the very start an inability to arrest the disease is manifest. In these progressive cases improvement may occur, but the patients cannot hold what they gain. As soon as this is recognized, the futility and danger of depending alone on good nursing, fresh air and rest must be admitted and surgical aid must be employed. This surgical assistance to the more natural methods of treatment gives the lung more complete rest, drives the blood from the engorged blood-vessels, keeps the lung from expanding, and saves it from the pulling and tugging of respiration. It collapses or forces the lung up together: expels its poisonous purulent contents; keeps the lung clean and dry, and makes the growth of tubercle bacilli in it difficult or impossible. In many cases the bacilli in the sputum disappear after surgical treatment and thus the danger of infecting others during the recovery is removed. When a case of pulmonary tuberculosis belongs to the progressive type, to persist with medical measures alone may cost the life of the patient. Surgery should be tried promptly, before it is too late.

The Medical Side of the Tuberculosis Problem

Dr. William Charles White, Pittsburgh: One of the burning questions of the day is whether tuberculosis is a sociologic or a medical problem. That such discussion goes on is probably a proof that it is both. We are seeking to discover if the sociologist should employ the doctor, or the doctor employ the social worker; or will the time come when all doctors and nurses will be social workers, and all social workers doctors or nurses? The reason for the social worker in tuberculosis will be found in the exclusion of tuberculosis from the general hospitals and other places of medical teaching, and the consequent ignorance of doctors and nurses on the whole question of this malady as a public health problem. The doctors who do know find more ready response to their teaching among the intelligent laity than among the profession. The majority of the problems in connection with the tuberculosis question, such as immunity, heredity, chemistry of lung and tubercle bacillus, cure, food values, etc., are medical in their nature, and must be solved by those of medical training. The social side of the question comes down to more and better food and better living conditions.

Whatever the future brings forth, the great feature is the universality of the malady, and it must be handled as are other universal conditions, such as, probably, childhood education. This would mean community units of tuberculosis control, probably one unit (composed of 100-bed hospital, dispensary, visiting nurses, educational bureau and babies' dispensary) for each fifty or a hundred thousand population for the intensive handling of such a district. All units should be correlated in municipal and state health and charity departments, and these in some ways connected with the federal Department of Health to control the interstate aspect of the disease.

One Year's Results at the Home Hospital

Dr. Edward C. Brenner, New York: Heretofore families in which one or both parents had tuberculosis were broken up, the patients being sent away to hospitals or sanatoriums and the children cared for in various ways. Under the Home Hospital plan, the family unit is preserved, the afflicted family occupying its own apartment in the hospital, and living under the best hygienic conditions. The patients are isolated as far as possible from the well members of the family, and receive the equivalent of sanatorium treatment. No special drugs are employed. The cure consists of a superabundance of fresh air, good food, rest and entire freedom from worry. The patients spend the day in reclining chairs on the roof and sleep at night in bedrooms with windows wide open, or on the open-air balconies attached to each bed-room. With improvement, a gradual return to a life of normal activity is attained. The children spend the day in the open and never come in close contact with the patients. Those who are old enough attend open-air school on the roof. Diseased tonsils and adenoids are removed, bad teeth are repaired, defective vision corrected—in short, everything is done to bring the children up to a normal standard.

During the past year twenty-seven families have been treated, comprising 133 individuals, of whom seventy-nine (adults and children) have been tuberculous. We have found distinct evidence of tuberculosis in 24 per cent. of the children, and another 27 per cent. are excellent candidates for the disease. All of these children have shown marked improvement during the year, and most of the pale, puny types are now wholesome, rosy-cheeked youngsters. The results obtained with the adult consumptives compare favorably with the reports of the leading sanatoriums; 61 per cent. have become apparently cured, 22 per cent. have had their disease arrested, and 11 per cent. are much improved. These astonishing results have been obtained in the very heart of New York City. The Home Hospital treatment costs only 40 to 50 per cent. as much as the ordinary methods of treatment.

Tuberculosis and Public Health

Dr. H. R. M. Landis, Philadelphia: An analysis of the cases in 100 consecutive applications for assistance at the Henry Phipps Institute in Philadelphia illustrates how closely the tuberculosis campaign is connected with almost every other social and public health movement. For instance, among these 100 persons some were found to be immigrants and their tuberculous condition was closely allied to this fundamental fact. Others were victims of bad housing conditions, while still another group were tuberculous because of faulty personal and household hygiene. In a third group, the problems were essentially economic, and it was necessary here to study the income of the families and their relation to sanitation and public health in their particular homes.

Reduction in the Tuberculosis Death-Rate, 1871 to 1912

Mr. Frederick L. Hoffman, Newark, N. J.: A considerable amount of trustworthy statistical evidence is available to sustain the conclusion that the mortality from tuberculosis of the lungs has actually as well as relatively diminished in the United States during the last thirty years, and that on the basis of rates for the registration area, the saving of lives due to the campaign against this disease during the decade ending 1910 alone has amounted to nearly 200,000. The death rate in this one decade has been diminished from 174.5 per hundred thousand of population to 139.7.

A study of the combined mortality from tuberculosis of the cities of New York, Philadelphia and Boston for 100 years, commencing with 1812, shows that the death-rate from this disease has persistently diminished, from 418.6 per hundred thousand population in the first decade of this period to 213.9 in the last decade. Furthermore this tabulation, which seems to be the first of its kind that has ever been made for any group of large cities in the world, shows that there has been a much more decided tendedcy toward a reduction of the death-rate since 1882. The death-rate from tuberculosis, which was 389.1 in 1881, had declined to 180.1 in 1912. These figures present the most conclusive evidence on record that the deliberate, thoroughly intelligent and nation-wide campaign against tuberculosis on the principle of its being an infectious disease and transmissible from man to man, has been successful beyond expectations.

Another study of fifty large American cities for the forty-year period beginning 1871 shows that the death-rate in this group of American cities has declined from 335 per hundred thousand in 1881 to 166 in 1911. The decline in Northern and Western cities was from 325 to 160 per hundred thousand, or 50.8 per cent. In the white population of Southern cities the rate declined from 301 to 150 or 50.2, while the colored population of southern cities showed a reduction from 668 to 423, or 36.7 per cent.

Another study of the mortality from tuberculosis of the lungs in the states of Massachusetts, Rhode Island and Connecticut gives further evidence that the decline in the death-rate from this disease has been a real one. The male death-rate from tuberculosis of the lungs in these three states has decreased from 276 per hundred thousand population in 1881 to 146 in 1911, or 47.1 per cent., and the female death-rate from 308 to 111, or 64 per cent. An important fact disclosed by this analysis is that the fall in the tuberculosis death-rate for women has been relatively greater than the corresponding decrease for men. Probably much of this relative difference is due to the fact that the sanitary conditions in workshops have not progressed with a rapidity equal to increased sanitation in the home. All the evidence obtainable from trustworthy sources confirms the conclusion that the reduction in the tuberculosis death-rate in the United States during the last forty years has not been less, but in many cases more than in other civilized countries throughout the world.

The Relation of Industries to Tuberculosis

Dr. B. S. Warren, U. S. P. H. S., Washington, D. C.: Good wages and short hours have a marked favorable effect on the death-rate from tuberculosis by producing a better standard of living among the workmen. The problem of the prevention of tuberculosis is an economic one, dependent on the adjustment of the industrial relations between the laborer and the employer. In those industries in which the condition of the employees is the least satisfactory, the death-rate is highest. Statistics appear to prove the statement that while some occupations are of themselves causes of high death-rates, tuberculosis is not in this sense an occupational disease, but rather one due to inadequate compensation, with all that that means in the standards of living. This is shown by a study of a large number of government workmen. While many government employees are working under insanitary conditions, at the same time the death-rate among these men is reported to be very low, as shown by official reports for the year during which the investigations were made. Overcrowding, poor ventilation, poor light, piece-work, speeding-up, etc., all the bad conditions, except long hours, were noted among 4,000 employees, with only four deaths from tuberculosis during the year. On the other hand, all wages in this group of government employees were $9 per week or more, and the general average was much above that. All legal holidays, certain half-holidays, the benefits of the employers' liability act, sick leave and thirty days' annual leave were allowed in most cases. If standards as high as those prevailing for government employees prevailed in the various private industries, the death-rate from tuberculosis among working men would be lower. Furthermore, when the government standards as to sanitation are improved, and the wage scale adjusted or equalized in all departments, the tuberculosis death-rate for government employees will be lowered still more.

The Tuberculosis Problem from the Sociologic Point of View

Prof. John R. Commons, Wisconsin Industrial Commission: The physician starts with the individual. The sociologist starts with his institutions. The physician looks on other individuals as sources of contagion or infection. The sociologist looks on them as owners of property. The one sees them as physiologic units; the other as possessors of power, or of that intangible property which we call "opportunity." Tuberculosis and occupational disease, safety and sanitation, infant mortality, hours of labor of women and children—these are some of the fields of scientific research and governmental administration in which the physician and the sociologist meet. Here the physician must go beyond physiology, contagion and infection and deal with the institutions of property, the family and the state, that make environment what it is. Here the sociologist must dip into physiology and pathology, if he would not go wrong in dealing with institutions.

A Report of the Present Status of the Investigation by the Public Health Service of the Friedmann Treatment for Tuberculosis

Surgeon John F. Anderson of the Public Health Service, after a review of the circumstances connected with the announcement of a new treatment for tuberculosis by F. F. Friedmann which led to the appointment of a board consisting of himself and Passed Assistant Surgeon Arthur M. Stimson to investigate the method, said: In correspondence Dr. Friedmann had expressed a willingness to place at the disposal of such investigators all the facts at his command and afford them every aid to prepare a "comprehensive and impartial report," but at its first interview with Dr. Friedmann the board ascertained he was not willing to reveal all the details of his methods. He imposed as a condition to furnishing detailed information regarding the methods of preparation of his remedy, a recognition by the board of favorable results from the use of the remedy on patients.

The board in effect found that it would have opportunity merely to study a culture of the bacteria, to test its pathogenicity on lower animals, and to observe the effect of treatment by him of tuberculous patients with his finished remedy.

It will be recognized that such an arrangement was not satisfactory from a scientific standpoint, but in view of the great importance of the matter the conditions imposed by Friedmann were accepted. Arrangements were made with various hospitals to treat patients, most of whom had been for some time under the care of their visiting staffs. The investigations have been undertaken and conducted in an impartial manner. After considerable delay, ninety-four patients had received their first injection up to April 15, when it became necessary to inform Dr. Friedmann that on account of the halting progress in the demonstration we would be forced to limit our studies to these patients. Up to the present time five of these patients have received a second injection.

Time is necessary in order to properly evaluate the effect of the possible therapeutic action of the remedy, but it is necessary to guard against too great optimism in respect to its merits.

Without presenting in detail the condition of patients under observation, we are in a position to state that the effects thus far observed do not justify the confidence in the remedy which has been inspired by widespread publicity. In our opinion harm may have been done by this undue publicity in so far as it has lessened the confidence of tuberculous persons in well-recognized methods of treatment or interrupted their use, and we are constrained to advise against any lessening of those well-known measures which not only have effected cures but which have reduced the incidence of the disease.

We are aware that Dr. Friedmann does not wish to be judged scientifically on newspaper statements and he would undoubtedly disclaim responsibility for certain of those which have appeared. Nevertheless, it is on those that the public bases its opinion until replaced by reliable and unbiased scientific pronouncements supported by convincing data.

While Dr. Friedmann advised the simultaneous or combined intravenous and intramuscular mode of injection he has in the series of patients observed almost exclusively made use of the intramuscular method alone in pulmonary cases and a very considerable proportion of them have either developed no considerable infiltrate at all or have suffered from abscess formation. It is evident, therefore, that a very considerable proportion of these patients may expect their treatment at the hands of Dr. Friedmann to extend over a prolonged period.

Concerning the culture submitted to us, we may state that a series of experiments is under way. The bacillus has been found to be an acid-fast organism having properties quite different from those of any tubercle bacillus with which we are acquainted. It appears to be identical with an organism cultivated from a few loopfuls of the material used for injection, which Dr. Friedmann permitted us to place on culture media in his presence. We requested Dr. Friedmann to furnish us with a larger amount of this material for examination, but this he has declined to do. We can state, however, that living acid-fast bacteria are being injected by the intramuscular and intravenous method, although we are ignorant of what medium they are suspended in or what additional substance or substances may be contained in the final mixture.

MEDICAL SOCIETY OF THE STATE OF NEW YORK

One Hundred and Seventh Annual Meeting, held at Rochester, April 28-30, 1913

(Continued from page 1484)

Association of Uterine Growths with Goiter; Typical and Atypical Exophthalmic Goiter

Dr. Henry L. Elsner, Rochester: I have made an analysis of 5,370 cases of internal diseases; 186 cases of goiter are included Of this number 89 were simple uncomplicated goiter; 97 were diagnosed as belonging to the class of exophthalmic goiter; of this number 55 proved to be atypic exophthalmic goiter: 42 were typical; 15 per cent. of all the cases of goiter proved to be associated with uterine myoma or fibromyoma. Since 1881 my clinical experience has demonstrated the frequent association of thyroid perversion, often hyperthyreosis, including simple goiter and exophthalmic goiter, typical and atypical with uterine growths, fibroid and myomatous. The blood-pressure in cases of goiter associated with uterine growths is normal, slightly elevated, or in occasional cases only little reduced.

DISCUSSION

Dr. Alexander Lambert, New York: Cases of exophthalmic goiter showing intestinal disturbance in the early stages are best controlled by feeding the pancreatic extracts. Those showing lack of energy in their work will respond quicker if given adrenals alone. There is a distinct difference with the uterine type. It is very marked in young girls who have gone through unfortunate love affairs. They have not only been sexually disturbed and stimulated, but their break-down comes in the shape of exophthalmic goiter.

Dr. John A. Witherspoon, Nashville, Tenn.: I have noticed for many years the relation of uterine trouble to exophthalmic goiter. I believe that we have a great many of these cases; just what relation they bear to each other we do not know, as we know very little of these internal secretions and their action on the economy. The removal of tumors from the uterus or the removal of the uterus itself does not seem to affect these patients very much. Only recently a woman had a uterine fibroid removed, and the shock, anxiety and worry of the operation exaggerated the exophthalmos and growth of the gland. In those cases we have hyperthyroidism produced from the excitement brought about by the preparation for operation.

Dr. Abraham Jacobi, New York: I have seen a few cases that would confirm Dr. Elsner's conclusions.

Certain Elementary Concepts in Education Applied to Medicine

Dr. J. G. Adami, Montreal, Canada, recounted the aims and purposes of education, and dwelt at some length on the laws by which the New York State Board of Regents governs the preliminary education of doctors.

SYMPOSIUM ON DUODENAL ULCER

Etiology and Morbid Anatomy

Dr. Marshall Clinton, Buffalo: Duodenal and gastric ulcer are so closely allied anatomically and etiologically that in a discussion of the etiology of duodenal ulcer we must take some notice of the factors that produce gastric ulcer. A great amount of experimental work in the production of ulcer has been carried out by different workers. Ulcers produced by direct trauma of the stomach wall, by feeding filth to animals, and by using stomach scrapings injected into other animals to produce a cytolysis of the mucous membrane have been followed by acute ulcer. All this experimental work has failed to this extent: chronic ulcer of the stomach or duodenum has not been produced. Acute ulcers have been formed as a result of these various experiments, but they come under the head of acute ulcer, while by custom now when we speak of duodenal ulcer we mean a chronic indurated ulcer. Chronic ulcer is generally rounded or oval with the long axis of the ulcer at right angles to the axis of the stomach or duodenum. The gastric juice plays an undoubted rôle, for it is the usual clinical observation to find ulcer associated with an excessive quantity and a greater degree of acidity than normal.

As to the pathologic anatomy of ulcer, the ulcer has a typical punched-out appearance. Sections of the ulcer do not seem to bear out the old idea that thrombosis plays a part in its production. We believe ulcer on the mucous membrane and deeper structures to be the result of mechanical trauma, plus a chemical action of the gastric juice. To become chronic, this trauma must be repeated frequently. The disturbance of the action of the pylorus by reflex impulses from other structures or the increase in quantity and acidity are the essential causes of chronic duodenal ulcer.

The Diagnosis and Prognosis

Dr. James T. Pilcher, Brooklyn: In analyzing the histories obtained from about 200 cases of duodenal ulcer personally observed I recognize in the great majority of them four preeminent factors: (1) the chronicity of the complaint; (2) the periodicity of the exacerbations of epigastric distress; (3) the occurrence of pain of a peculiar character with precise time of onset; (4) the control of this discomfort by the ingestion of food or alkalies. In the cases observed lately the marked period of chronicity has been reduced, owing probably to the growing familiarity with the condition. I consider the most corroborative subjective symptom to be the peculiar effect that the ingestion of food has on the epigastric distress, which act, as I have noticed almost without exception, gives relief at once, at least in the earlier stages of the condition before complications have arisen. Gastric analysis showing a marked hyperacidity is considered merely as suggestive, and probably the most important test-meal findings are to be obtained by the analysis during one of the intervals free from distress, at which time it has been noted that the acidity is usually normal or subnormal. One of the most essential elements to be recognized in cases of duodenal ulceration is the etiologic factor of the process. In referring to the condition it might be advantageous, whether the case be treated medically or surgically, to prefix the surname indicative of the underlying cause suggesting the terminology, jejunoduodenal ulcer, ileocecal duodenal ulcer, appendicoduodenal ulcer, colonoduodenal ulcer, membranous pericolitic duodenal ulcer, static duodenal ulcer or ptotic duodenal ulcer.

The prognosis is regarded as a relative question. In anterior ulceration, owing to the facts that these ulcers are the ones that perforate most frequently and that they are the most frequent in occurrence, the prognosis is rather unfavorable, if such ulcers be allowed to continue their course. Those situated posteriorly, although seldom perforating into the abdominal cavity, are prone to inaugurate complications such as pancreatitis, common-duct obstruction and duodenal stenosis, which may eventually prove quite as dangerous as the acute perforation.

Complications

Dr. John B. Harvie, Troy: The complications are cancer, hemorrhage and perforation, which will call for the most vigorous and energetic treatment. Obstruction due to contraction will permit of greater deliberation. Unfortunately, malignant disease has usually passed beyond all likelihood of successful surgical intervention when the diagnosis is made. I have met a number of cases of inoperable carcinoma occurring in the pylorus and upper part of the duodenum, starting at the base of an old ulcer, and while careful analysis of the symptom-complex might have led to an earlier diagnosis, I have not been fortunate enough to have these cases in time to be of material benefit to the patients. If there is one department of medicine in which diagnosis is called for more promptly than others, it is the right time to interpret the significance of serious abdominal lesions. The differential diagnosis between perforation of duodenal ulcer and perforation of any other hollow viscus will present difficulties, and interpretation of the site of the lesion when general peritonitis is established, and the abdomen distended with contents, make any attempt at localization largely speculative. Males suffer more frequently than females from duodenal ulcer.

Non-Surgical Treatment

Dr. Charles G. Stockton, Buffalo: Treatment is not directed toward curing the ulcer, but toward controlling the patient and in so managing the digestive tract that the ulcer may heal spontaneously. The indications for treatment are: (1) to require that the patient be kept in bed continuously for several weeks, for it is known that by assuming the upright position, bending the trunk or making movements which involve the action of the abdominal muscles, the relations of the duodenum to other parts are changed and undue tension may thereby strain the walls of the ulcer; (2) to manage the patient so that involuntary motion of the pylorus and duodenum may be minimized, that the elements of overtonicity and spasticity of the parts may be avoided; (3) to lessen the amount of gastric secretion, with decreased acid and enzyme activity of the gastric juice before it passes the pylorus. Epinephrin in gastric and pyloric spasm in four out of six cases was given with favorable results. In the use of epinephrin we have a fresh means of relieving a proportion of patients of gastric and pyloric spasm. There is another method which acts in overcoming pyloric spasm, and that is duodenal alimentation as advocated by Einhorn. We have in this method a new and improved means for the treatment of gastric and duodenal ulcer. I believe the time is near when this plan of treatment will supersede operative interference in a number of cases in which the need of operation is now felt.

Surgical Treatment

Dr. John B. Murphy, Chicago: Acute cases yield very well to medical treatment. The best results are obtained by physiologic and physical rest. My personal observation of twenty-one years in work of this kind has shown that we secure better results in the chronic cases from surgical treatment; that we have greater freedom from recurrences. Surgical treatment is usually instituted at a time when it is not easy to save life; but we are making great strides. When one compares the mortality of duodenal perforation of fifty years ago with the mortality to-day, it is very much to the credit of the medical and surgical branches of the profession. Ninety-three per cent. of all lesions of the duodenum or duodenal ulcers occur on the anterior surface and in the first portion. When perforation occurs, stop the leak always. Do it quickly. It is unnecessary to do gastro-enterostomy at that time. Relieve the tension of the products of infection and of the material that has escaped into the free peritoneal cavity, using the Fowler position and lower abdominal drainage. Restore the patient's arterial tension immediately on the table, and while you are closing the abdomen have your assistant give intravenous transfusion if the patient is below par. On this plan a great reduction in mortality has been made. The best results at present are obtained by following simple means, namely, infolding of the ulcer area after the plan of Mitchell, who reports nineteen cases, with eighteen recoveries.

DISCUSSION

Dr. Allen A. Jones, Buffalo: Hunger pain is an important symptom in the diagnosis of duodenal ulcer. Most of the patients with duodenal ulcer that come to us have this hunger pain very marked. It is not a symptom, however, on which we should diagnose positively duodenal ulcer. Roentgenoscopy is important in the chronic cases in which adhesions have formed, or in which there is partial stenosis of the pylorus and duodenum just beyond. Hematemesis is as common with duodenal as with gastric ulcer. We should advise against surgery in all cases in which there is a profuse hemorrhage. Acute abdominal pain, at all times, with other symptoms is of extreme importance.

Dr. Max Einhorn, New York: I have had several cases of ulcer of the stomach which have come to operation later that presented the characteristic symptoms of duodenal ulcer. That duodenal ulcer is no more frequent than gastric ulcer can be proved by experience. Hemorrhage is not an indication for operation. I think that in 99 per cent. of the cases of duodenal ulcer the patients recover under careful, judicious medical treatment.

Dr. Robert T. Morris, New York: In regard to acute duodenal ulcer calling for immediate treatment. I have one new point to offer, namely, that our whole tendency is to conserve the strength of the individual in such a way that he may produce his own leukocytes, his own phagocytes and carry on the processes of elimination himself.

Dr. Charles L. Gibson, New York: One pitfall in the diagnosis is the question of free air in the peritoneal cavity masking or obliterating liver dulness. I am sorry that this sign was invented because it is one of the greatest pitfalls we have. Practitioners have refused to make a diagnosis because this sign was absent. Another pitfall is to lay undue stress on blood examinations in duodenal ulcer. One sign that occurs as a transitory one comes within the first half hour, namely, pain, quite marked, in the supraclavicular fossa, right or left, more often the left in my experience. The indications for gastro-enterostomy in these cases are extremely restricted. I have not done this operation, and have no occasion to regret it.

Dr. Anthony Bassler, New York: Cases of duodenal ulcer with perforation are surgical; cases in which there is recurrent hemorrhage are surgical, even if the hemorrhage is moderate in amount.

Possible Errors in the Diagnosis of Abdominal Cancer: A Plea for Exploratory Laparotomy

Dr. William Seaman Bainbridge, New York, illustrated his contentions with cases falling under the following categories: 1. Cases diagnosed as cancer, with no cancer present. 2. Cases of cancer, not recognized as such, but diagnosed and treated as something else. 3. Cases of small cancer, diagnosed as cancer, but having far more of something else present, the latter condition being mistaken for malignancy, or being considered too serious, in conjunction with the cancer to warrant operative interference. 4. Cases of advanced cancer, diagnosed as such, but made seemingly hopeless by an added condition which, in itself, is not of serious moment so far as the prognosis is concerned. 5. Cases in which the error in diagnosis concerns the type of malignant growth. Exploratory laparotomy is not advocated indiscriminately. Careful examination by all modern diagnostic methods applicable to the case, extending over a reasonable time, should be employed. Test meals, gastroscopic examinations, roentgenoscopy and the various other non-surgical diagnostic measures may be the means of plunging the patient into that slough of despond, the irremovable stage of cancer, when only palliative measures can be employed.

Radium in Surgery

Dr. Howard A. Kelly, Baltimore: Radium is destined to produce a change in surgical and medical work, not less marked than the introduction of the Roentgen ray, perhaps even more decided. Radium in surgery will definitely cure many forms of cancer, especially in the early stages; it will cure 96 per cent. of skin cancer, recurrent uterine cancers if taken early, and some cases of rectal cancers; it acts most favorably on parotid growths; it will cure some cancers of the lip, tongue and breast, and it acts also very positively on sarcomas. It also cures various other fibrous and epithelial growths especially on the surface of the body. One of its happiest effects is in curing angiomas, even the large vascular growths which cannot be treated at all surgically. In gynecology radium acts happily, outside of its value in cancer, in checking the growth of fibroid tumors, in stopping uterine hemorrhages and in relieving some forms of pelvic inflammatory trouble. One of its happiest uses is in the cure of obstinate pruritus of the vulva and anus. In exophthalmic goiter there is a promise for a definite field of utility. Its use in surgery, dermatology and medicine bids fair to bring about either a realignment or a readjustment of the work in these special branches.

Tuberculin Treatment

Dr. Edward R. Baldwin, Saranac Lake: It is evident that tuberculin treatment is often given ignorantly. The object of the treatment is either to reduce the hypersensitiveness or to stimulate the tuberculous tissue to heal by intermittent reactions. Patients should be built up in health and nutrition and rested until acute symptoms subside. All bad complications, intestinal involvement, ulcerated larynx, fever of 100 F. or over and weakness are contra-indications. Scrofulous cases are often favorable. Reactions are to be avoided; they may be local, focal or general, with or without fever. The treatment is empiric and experimental in each patient. Rules about dosage are not hard and fast. Skin tests at the start form some guide to dosage. Cures are not made by tuberculin alone, but may be assisted or retarded by it. It may produce much symptomatic good by lessening sensitiveness to itself or it may aggravate the disease.

Benzol in the Treatment of Leukemia

Dr. Jerome Meyers and Dr. Thomas Jenkins, Albany: Benzol is a valuable addition to the therapy of leukemia of any kind. Its institution, however, is so recent, and clinical experience still so scanty, that definite conclusions as to its intrinsic value should be held in abeyance. It seems to have no uniform action; in all cases it reduces the white cells, but in some, apparently those with very high counts, it does not reduce the leukocytes to normal, while in cases of from 100,000 to 200,000 it may give brilliant results with normal white counts, greatly diminished or normal spleen, distinct gain in weight and strength and loss of fever. On the other hand we may have paradoxical reactions with falling white counts and *gain of strength* with no change in the spleen, or we may find a decrease of the spleen with persisting high leukocyte counts, or *there may be low counts* with many pathologic leukocytes, or there may occur sudden leaps in the number of white cells. The red corpuscles and the hemoglobin are usually influenced beneficially. When Roentgen rays can be used in combination favorable results may be obtained, the blood returning to normal with no persisting myelocytes. It is probable that the results of benzol therapy are variable for two reasons: 1. The cases in themselves vary in intensity, and in the fundamental pathologic conditions or etiologic factors in the bone-marrow, the spleen or the lymphoid system. 2. The results are in some way dependent on the size of the dose of benzol, which dose may be either stimulating or depressing to the tissues involved, and this dose may be peculiar in a marked degree to each case or individual. We would therefore suggest that the effect of benzol be carefully checked by daily blood examinations so as to gage the optimum dose and to forestall any symptoms of benzol poisoning.

Prognosis in Infantile Paralysis

Dr. Wisner R. Townsend, New York: When a patient is first attacked the prognosis must be guarded. If it is of the pontine or bulbar type, or in an epidemic, with a high mortality, or in the very young or the very old, the prognosis is not so good as in other cases. The mortality may be put down as from 5 to 25 per cent. About 25 per cent. of the total affected may be of the abortive type. By the end of the second week electric examinations may enable one to make a rather positive prognosis as to which muscles will be affected, but no definite conclusion can be reached as to how far they will be affected and what the ultimate results will be before the end of six months. Definite conclusions can be given by the end of a year as to what the ultimate results will be. Deformities, both primary and secondary, can be predicted and thus prevented. Proper orthopedic treatment will give the best results.

Examination of the Exposed as a Factor in the Prevention and Relief of Tuberculosis

Dr. John H. Pryor, Buffalo: At the Buffalo Tuberculosis Dispensary where the examination of the exposed was begun in 1907, and where the practice has gradually become more thorough, the following results are reported in 248 families in which there was one living case: Pulmonary tuberculosis found in one or more members, 35 per cent.; glandular tuberculosis, 8 per cent.; tuberculosis in some form, 43 per cent. In 87 families 100 cases of pulmonary tuberculosis were discovered. In 19 additional families 48 persons had tuberculous lymph-nodes—that is, they were probably tuberculous. In 113 families in which other members were examined and in which a death from tuberculosis had occurred other cases were reported in 40 per cent. of the members. In some families 3 or 4 other cases were discovered. Only those families are included in which examinations were made of most or all members.

During the last three years the necessity for more careful examination of the borders of the lungs along the spine and beneath the sternum has become *apparent. These two regions* are apt to be entirely overlooked. Auscultation of the sternum is particularly uncommon in practice. Yet the signs of a lesion occasionally are manifest there and absent elsewhere. This is especially true of children and young people. There may be evidence of disease of the bronchial lymph-nodes but the free borders of the lungs in the mediastinum should be searched also. In numerous instances when symptoms justified strong suspicion and all other regions betrayed no signs the focus was found beneath or at the edges of the sternum or close to the spine after repeated forcible inspirations and cough. In two instances the *lesion* was *located at the edge of* and under the sternum, and had followed sternal blows in football games. When children have made an apparent recovery the evidence of renewed activity or recurrence is occasionally elicited only along the edges of the spinal column.

NEW YORK NEUROLOGICAL SOCIETY

Meeting held April, 1913

The President, Dr. Smith Ely Jelliffe, in the Chair

An Anomalous Case of Acromegaly

Dr. M. Neustaedter: The patient is a Russian pedler, aged 30, with unimportant family history. Up to a year ago he was slightly alcoholic; eight years ago he had gonorrhea, but denied lues. Four years ago he began to have trouble with his sight, which constantly grew weaker. Three months ago he began to suffer from headache, which was constant up to a week ago. He had never vomited or suffered from nausea. About ten weeks ago his speech became affected, and at present he also complains of "drawing" pains in his limbs, especially in the left leg. He became depressed and began to lose his memory, especially as to recent events. He was always sleepy and rather irritable. His gait, which was formerly slightly ataxic, is now fairly good. He has gained 15 pounds in three months. There seems to be a beginning deposit of adipose tissue around the hips. His hair is becoming rather sparse and coarse; the skin is thick and moist. The lower jaw is becoming enlarged and the bones of the fingers are becoming thickened. The sella turcica is slightly enlarged. Speech is rough and deeper than formerly, and at times is rambling. His movements are rather clumsy, lacking energy, and he complains of sleepiness. His hearing is not affected. There is a marked impairment in his sense of taste on the left side of the posterior two-thirds of the tongue. Smell is much impaired on the right side. There is evident exophthalmos; the pupils are dilated, irregular in shape and unequal, the right being the larger. They fail to *respond to light or accommodation*. There is a left staphyloma and a double chorioiditis. The patient also presents a binasal hemianopsia, a myopia of 7 diopters, and a haziness of the vitreous and detached retinas on the temporal side of both eyes. There is a fine intention tremor of the hands and tongue. The superficial reflexes are present and lively; the knee-jerks are exaggerated; there is no Babinski or clonus. The motor power of the flexors of the left arm and leg is somewhat diminished. The Wassermann reaction is very strongly positive.

Juvenile Paresis

Dr. Smith Ely Jelliffe: A girl, now aged 15, began to have pains and stiffness in her legs about four years ago, and attacks which were called "fits," during which she would become rigid but did not lose consciousness. About this time there was an apparent retrogression in her mental development, and since then she has slowly deteriorated. She showed the Argyll Robertson pupil, a tremor of the tongue and face, an infantile mode of speech, with a degree of hesitation that almost amounted to stuttering, and a loss of knee-jerks. The girl's father died at the age of 42 after a maniacal attack, and was a paretic. The mother has Argyll Robertson pupils. The patient has Hutchinson teeth.

Direct Treatment of Syphilis of the Central Nervous System

Dr. Homer Swift and Dr. A. Ellis: The technic which we have employed is to treat the patient intravenously with salvarsan or neosalvarsan, one hour later withdraw from 40 to 50 c.c. of blood into a sterile centrifuge tube, centrifugalize the blood and separate the serum from the clot. Then 12 c.c. of the serum are diluted with 18 c.c. of normal serum and heated to 56 C. (132.8 F.) for half an hour. A lumbar puncture is made and spinal fluid withdrawn until pressure is reduced to 30 mm. of cerebrospinal fluid. The 40 per cent. serum is injected by gravity through the lumbar puncture needle.

DISCUSSION

Dr. John A. Fordyce: Although many of the nervous manifestations of syphilis occur several years after infection, in the great majority of cases, if not in all, involvement of the cerebrospinal system takes place during the secondary stage of the disease. It is at this time that there is a generalized dissemination of the spirochetes. It is reasonable to assume, therefore, that the infecting agent may remain latent in the cerebrospinal fluid for years, but under the influence of various contributing factors, it could cause during this stage, or later, meningitis, paresis or the complicated clinical picture of cerebrospinal syphilis. From the histories of patients who have come under my observation with tabes or other forms of cerebrospinal syphilis, I am impressed with the frequency with which they stated that they had had months or years before ocular paralysis or other manifestations of meningitis. During the early experiments with salvarsan as a therapeutic agent it was thought that one or two doses of the remedy would be sufficient to control the infection, and unfortunately this impression is still held by many practitioners, and it fostered the belief that salvarsan was not effective in the treatment of syphilitic conditions of the cerebrospinal system. As a matter of fact, many of these patients are aggravated by one or two doses, while, on the other hand, many of their symptoms are relived by the persistent use of the drug. The pains, crises, bladder symptoms and general nutrition of the patients are often greatly benefited. My plan of treatment in these cases is to give injections of salvarsan at weekly intervals, combining them with mercury at intervals of three or four days. In one case of paresis I gave twenty-one injections of salvarsan, about 10 gm. in all, with marked alleviation of the symptoms. The Wassermann reaction in this case had not been influenced by the treatment, and the cerebrospinal fluid at the last examination contained 90 cells, with a positive Wassermann and globulin reaction. I am becoming more and more convinced that salvarsan has no deleterious effect on the optic nerve. On the contrary, I have two cases under observation where it proved distinctly beneficial. In one of these cases the visual fields have enlarged, and whereas before the treatment the patient could not count fingers before one eye, she can now distinctly recognize features with the eye.

Dr. B. Sachs: The theory on which this method of treatment is based is a plausible one. It appears to exert a direct effect on the syphilitic process in the central nervous system. Whether or not the change in the globulin content and cell count necessarily indicates an improvement in the patient's condition would have to be determined by a much longer experience with this method of treatment, and the results would be watched with great interest by clinicians. In the treatment of syphilis of the central nervous system with salvarsan, I have been struck by several points. One is that the persistence of the Wassermann reaction, in both the blood and spinal fluid, seemed to be out of relation to the intensity of the morbid process.

Dr. E. D. Fisher: On the strength of recent reports, I have employed salvarsan in parasyphilitic conditions to a considerable extent, but in no instance could the results be regarded as marvelous. I have found it effective in those cases which were clinically designated as cerebrospinal syphilis, in which the pathologic changes differed from those of general paresis or tabes, although the differential diagnosis was often obscure.

Dr. D. M. Kaplan: The use of a large quantity of spinal fluid tends to make the positive Wassermann persistent, notwithstanding that the other serologic tests became negative.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Diseases of Children, Chicago

May, V, No. 5, pp. 345-424

1 *Gastric Motility in Infants Studied Roentgenographically. M. Ladd, Boston.
2 Case of Amyotonia Congenita with Autopsy. N. C. Foot, Chestnut Hill, Mass.
3 Case of Congenital Myxoma of Feet. M. Leitao, Rio De Janeiro, Brazil.
4 *Vaccine Treatment of Whooping-Cough. E. M. Sill, New York.
5 *Metabolism of Child with Complete Absence of Bile from Intestines. W. S. Parker, Boston.
6 Scientific Basis for Artificial Feeding of Infants. J. Howland, Baltimore.

1. Gastric Motility in Infants.—Ladd has based his observations on about fourteen cases, or twenty-four series, with about 124 plates. He says that one of the most striking things observed is the curious lack of peristalsis to be seen in infants' stomachs as compared with adults. Only twice has he been able to show the outline of the duodenum distinctly. The reason for this was not clear, unless it was that the food remains in the duodenum only a short time, and that the plates were taken at such long intervals, comparatively, that the duodenal stage was missed. In a case of normal digestion, if the negative is clear-cut, bismuth appears in the small intestines as soon as the feeding is completed, showing that a considerable amount of food passes into the duodenum without undergoing gastric digestion. The stomach appears to empty itself of the greater part of its contents in from one and one-half to two and one-half hours, the emptying process being more rapid in some cases than in others. After the greater part of the stomach contents has passed into the small intestines, a considerable residue remains, which is emptied very slowly, often remaining for four and one-half to five or even seven and one-half hours, in both breast-fed and bottle-fed babies. When a bismuth feeding is given and another feeding follows at the end of the regular two and one-half or three hour interval, the bismuth residue from the first feeding does not appear to mix intimately with the new feeding, but, as a rule, passes out into the small intestines much more quickly than it does when left to itself. The suggestion is strong that the distention of the stomach by a new feeding, if not excessive, stimulates peristalsis and favors the expulsion of the bismuth residue into the duodenum. On the other hand, if the distention is excessive, peristalsis may be inhibited and the emptying time of the stomach delayed.

In congenital pyloric stenosis the dilatation and peristalsis is marked; the pyloric end showing the same prow-like formation seen in adults. After a posterior gastro-enterostomy the stomach appears to expel its contents through the artificial opening quite as rapidly, if not more so, than the normal stomach. As the opening of the pylorus is dependent on the secretion of hydrochloric acid in the stomach, the early appearance of bismuth in the intestines and the expulsion of the major part of the contents within two hours would suggest that the bismuth does not of itself interfere with the normal motility of the organ. Moreover, the negatives show in one series that the bismuth had disappeared from the stomach, in one experiment in two and one-half hours, in another in seven and one-half hours—the difference in the emptying time being due presumably to the differences in the composition of the food, the amount of bismuth being the same in both cases.

4. Vaccine Treatment of Whooping-Cough.—Thirty-three patients with whooping-cough were treated by Sill with the pertussis vaccine, and in all the effect of the vaccine was to diminish markedly the number and severity of the paroxysms and the amount of vomiting. Absolutely no untoward effects from the use of the vaccine were noted. There were no complications in the cases in which the vaccine was used. No abscess formation, or even slight temporary inflammation or swelling at the site of the injection, and no general constitutional symptoms occurred. The longest time any of the children coughed was twelve weeks and four days. The longest time any child coughed after it was put under vaccine treatment was nine weeks and one day, the average length of time being four and one-half weeks. The injections were given every two or three days in most of the severe cases, and in the very severe cases every day for a few days, until the symptoms were relieved; the milder cases did not receive the vaccine so often nor so much at a time.

In giving the vaccine Sill was guided more by the severity of the disease than by the age of the child. The youngest child treated was 1 month old and the oldest was 6 years. Most of the children were from 6 months to 3 years of age. The dose of the vaccine varied according to the number and severity of the paroxysms, from twenty million bacteria in the mild cases to sixty million in the severe cases. The cases that were seen early in the attack, before the paroxysms had attained their height, seemed to respond more quickly to treatment and their course was shorter. In all cases, however, after one to three injections, the number and severity of the paroxysms was markedly lessened. Some children seemed to respond better to treatment than others, and Sill attributes this to the fact that the dosage was given irrespective of the age: therefore, the younger children got a larger dose proportionately, and, as a rule, these latter were the ones that responded most quickly to the vaccine and had the shortest attacks after treatment was begun. Sill points out that this fact is important, since (heretofore) these young babies are so apt to have pneumonia complicating or accompanying pertussis, with fatal results.

It was found that the children did better when the vaccine was given in moderately large doses at frequent intervals of one or two days. The correct dosage for the mild cases, according to Sill, is fifty million bacteria given every other day, while in the severe cases this amount should be given every day, or one hundred million every other day. The vaccine is given under antiseptic precautions, subcutaneously, with the ordinary glass syringe, the injection being given in the abdomen or buttocks. Prophylactic treatment was instituted by giving immunizing doses of pertussis vaccine to children in a family in which one of the children was under treatment for whooping-cough. These children were watched over a period of two months, and although they had never had whooping-cough and were constantly exposed to the disease, did not contract it. It would seem, then, that the vaccine confers immunity to the child injected with small doses. One child of 5 years was given four injections of twenty million bacteria each, over a period of one month; another in the same family, 3 years of age, got nine injections of twenty million each, over a period of one month; neither child developed pertussis.

5. Metabolism of Child with Absence of Bile from Intestines.—From the study of a case of absence of bile from the intestinal tract Parker concludes that nitrogen metabolism is normal; fat metabolism is greatly reduced; the presence of bile is necessary to normal fat metabolism. A child not otherwise ill, but unable to digest fat on account of absence of bile from the intestine, can, if stomach and pancreatic functions are normal, digest sufficient protein and carbohydrate to maintain nitrogen equilibrium and to gain weight. The negative urobilinogen test is evidence of complete absence of bile from the intestine.

Arkansas Medical Society Journal, Little Rock

April, IX, No. 11, pp. 255-282

7 Pathologic Uterine Hemorrhages. W. R. Brooksher, Fort Smith.
8 Indispensable Adjuncts in Diagnosis. E. D. Holland, Hot Springs.
9 Laryngeal Diphtheria. R. H. T. Mann, Texarkana.
10 Management of Chronic Cystitis in Female. T. J. Stout, Brinkley.
11 Cooperation Between Physician and Pharmacist Through Prescribing of Pharmacopeial and National Formulary Preparations. E. G. Eberle, Dallas, Tex.
12 *Physician, Pharmacist and Proprietary Medicine. A. E. Cox, Helena.

12. Physician, Pharmacist and Proprietary Medicine.—Many American pharmaceutical houses, according to Cox, are devoting their energies to the devising of pharmaceutical specialties, which are mixtures of well-known medicaments so fixed up that they are both palatable and of pleasing appearance, and having names that mean nothing and often are therapeutically suggestive. Manufacturing pharmacists would do well, in Cox's opinion, to devote more time to refining many of their products and leave to the doctor to prescribe and to the retail druggist to prepare his prescriptions. Speaking of "ready to take" preparations, he says:

> Are we not making a great error to prescribe such a combination? Because, first, from the standpoint of our patient, he gets no more by our prescribing this ready-made preparation, which might well be compared to the ready-made suit in contrast to the cut-to-fit, made-to-order garment; second, from the standpoint of a physician, we cultivate indolence in fitting such a combination of drugs to many cases when by working out a formula for each case and meeting the different indications in that particular case our familiarity with drugs is increased and we thereby become more expert as therapists, and in the end we are enabled to accomplish that which may be reasonably expected of our profession. Third, and last, we are not treating our druggist and pharmacist right. He has spent anywhere from two to four years at college fitting himself for this work, and he is certainly capable of compounding our prescriptions properly, if we will give him an opportunity and allow him to earn a legitimate profit in doing this and not make him an agent for the hundreds of ready-made preparations, hand-me-downs, which, unfortunately, are manufactured more for the interest of the house than for the interest of the consumer.

Boston Medical and Surgical Journal

May 1, CLXVIII, No. 18, pp. 637-672

13 *Localized Osteomyelitis of Long Bones. C. C. Simmons, Boston.
14 *Infections of Upper Urinary Tract in Infancy and Childhood. R. M. Green, Boston.
15 Views of Plato and Freud on Etiology and Treatment of Hysteria. J. W. Courtney, Boston.

13. Localized Osteomyelitis of Long Bones.—Simmons believes that mild acute localized osteomyelitis is often overlooked in its early stages, but when recognized and treated promptly recovery usually occurs in a few weeks. It makes little difference, he says, what type of operation is performed in the subacute cases, cases of less than one year's duration, if it is thorough. The results are almost uniformly good. In the chronic, long standing cases of bone abscess operations such as are performed in the earlier cases with success often give unsatisfactory results, as the endosteum is not capable of filling in the defect. No definite rule as to the type of the operation can be laid down, but each case should be considered individually. When possible it would seem best to obliterate the cavity with living tissue flaps.

14. Infections of Upper Urinary Tract in Infancy.—Green is convinced that in infants and children infections of the upper urinary tract, though infrequent, are likely to occur without adequate apparent antecedent cause. Their onset is acute, their clinical picture definite, their recognition often missed on account of their simulation of other infectious conditions. Their two most usual forms are acute pyelitis and acute inflammatory nephritis. The latter is most usually hematogenous in origin, the former probably proceeds by lymphatic extension from the intestine. Predisposing causes are calculi, constipation, phimosis, anal fissures and foci of infection elsewhere. The classic signs of both are pyrexia, pyuria and tenderness in the costovertebral angle. Differential diagnosis depends on examination of the urine. The treatment consists in rest, milk diet, aqueous diuresis, moderate catharsis, urotropin, with sodium benzoate, potassium citrate, or vaccine, in obstinate cases; surgery, only as a final measure.

Journal-Lancet, Minneapolis

April 15, XXXIII, No. 8, pp. 223-247

16 Strangulated Inguinal Hernia in Early Infancy: Report of Case in 18-Day-Old Infant. A. N. Collins, Duluth, Minn.
17 Some Very Acute Cases of Appendicitis in Childhood. N. L. Werner, Red Wing, Minn.
18 Analysis of 13,000 Cases for Errors of Refraction. G. B. Granger, Rochester, Minn.
19 Four Cases of Tubal Pregnancy. T. F. Riggs, Pierre, S. D.

Journal of Experimental Medicine, New York

May, XVII, No. 5, pp. 499-592

20 *Comparative Studies on Cancer Cells and Normal Cells. R. A. Lambert, New York.
21 Bacteriology and Vaccine Therapy of Distemper in Horses. W. Lintz, Brooklyn.
22 *Experiments on Transmission of Scarlet Fever to Lower Monkeys. G. Draper and J. M. Hanford, New York.
23 Experimental Pulmonary Tuberculosis in Dog. P. A. Lewis and C. M. Montgomery, Philadelphia.
24 Antigenic Properties of Globin Caseinate. F. P. Gay and T. B. Robertson, Berkeley, Cal.
25 Renal Lesion of Experimental Cantharidin Poisoning. R. M. Pearce, Philadelphia.
26 *Value of Mallory's Connective Tissue Stain for Demonstration of Variation in Thyroid Colloid. A. P. Jones, Madison, Wis.
27 *Results of Serum Treatment in 1,300 Cases of Epidemic Meningitis. S. Flexner, New York.
28 Paralysis in Dog Simulating Poliomyelitis. S. Flexner and P. F. Clark, New York.
29 Immunization of Large Animals to Pathogenic Trypanosome (T. Hippicum-Darling) by Means of Avirulent Strain. S. T. Darling, Ancon, Canal Zone.
30 Action of Pneumococcus on Blood. E. E. Butterfield and F. W. Peabody, New York.

20. **Cancer Cells and Normal Cells.**—A series of comparative studies on cancer cells and normal cells was made by Lambert during the past year. The first report on this work dealt with the susceptibility to heat of sarcoma cells and connective tissue cells. The present report is limited to a consideration of the general character of growth *in vitro* of the same two tissues with special reference to cell division. Lambert claims that in primary cultures sarcoma cells exhibit a much greater activity than do normal connective tissue cells grown from the adult blood-vessel; there is a shorter latent period, ameboid phenomena are more marked, and cell multiplication proceeds more rapidly. In secondary cultures sarcoma cells are less active than in primary cultures; connective tissue cells, on the other hand, show a markedly accelerated growth. Connective tissue cells are more easily propagated over long periods *in vitro* than are sarcoma cells; they multiply actively in cultures more than three months old. Lambert found the method of tissue cultivation is well adapted to the study of normal and pathologic cell division; the nuclear changes are easily discernible in the living cell as division proceeds, and staining methods may be applied to verify observations on the unstained structures. Atypical mitoses of several kinds are found in cultures of sarcoma cells but are not seen in growths of connective tissue. The time required for division in rat connective tissue cells kept at body temperature (38 C.) varies within relatively narrow limits (twenty to fifty minutes); sarcoma cells, on the contrary, exhibit marked variations and several hours may be required. In studies on living cells amitotic division has not been observed by Lambert in either normal or tumor tissue. Evidences of nuclear budding, however, with the formation of cells containing several nuclei of irregular size have been noted. The development of a cell with two nuclei from a mononuclear cell by mitotic division of the nucleus without division of the cytoplasm has also been observed.

22. **Transmission of Scarlet Fever to Monkeys.**—The experiments made by Draper and Hanford were varied as much as possible, both with respect to the character of material and the site and method of inoculation, on the one hand, and the conditions bearing on the susceptibility of the animals on the other. The routes of introduction were through the mucous membranes, skin, stomach, joint cavities, blood-stream, peritoneum and brain. It seemed possible that repeated inoculations at three-week intervals over a long period might bring about a state of hypersensitiveness and so lead to infection. Consequently several monkeys were treated in that manner. The animals stood the inoculation well and showed no reaction of any kind. In this series most of the inoculations were made by swabbing the scarified mucosa with infected material, and by submucous injections in the throat and nose with a hypodermic needle.

With the view of adapting a virus to an unusual host, two series of experiments were undertaken, in which infected material was easily accessible for removal. The groin was used in each series, but the inoculation material differed. Series A received subcutaneously the supernatant fluid from an emulsion of fresh tonsils from scarlet fever patients, whereas Series B was given an emulsion made from tongue scrapings. It is interesting to note that after the first passage the inguinal lymph-nodes were sterile, although in some cases enlarged. The first three animals of Series A were treated as described above and the inguinal nodes were removed and an emulsion made from them was reinjected into another monkey. The last three animals of this series were treated in a similar way, except the final one, which received the emulsion of inguinal nodes partly in the brain and partly in the peritoneum. Series B was a repetition of Bernhardt's method. Both series were negative.

The main point made by Draper and Hanford is the fact that monkeys are highly resistant to infection with micro-örganisms from human beings. Therefore, they believe that the reported successful transfer of scarlet fever to both higher and lower monkeys is not definitely established. In the course of their experiments the infectious agent was carried over to the monkeys and the failure to cause infection probably proceeded from the insusceptibility of the monkeys employed, or to the manner of introducing the agent. The temperature curve and leukocyte count of monkeys they regard as unsatisfactory criteria for the diagnosis of disease in those animals. So far as scarlet fever is concerned monkeys frequently have transient blotchy, erythematous eruptions on the face and neck, and almost always a bran-like desquamation.

26. **Mallory's Connective Tissue Stain.**—Jones found that Mallory's connective tissue stain used in connection with fixation of tissue by Zenker's fluid or bichlorid of mercury demonstrates the presence or absence of iodin in the thyroid colloid, as is evidenced by parallel chemical determinations, iodin feeding and test-tube experiments. Greatly increased activity of the heart is accompanied by a loss of thyro-iodin from the colloid of the thyroid. This method, while apparently not adaptable to clinical use, Jones believes, may prove of value in further experimental work on the thyroid.

27. **Serum Treatment in Epidemic Meningitis.**—The data brought together in this report have been gathered by Flexner from a wide territory and for a period extending over several years. The antimeningitis serum was first employed in 1906 and the latest figures relating to its use included in this report were furnished in 1912. He says that there is no longer doubt that the serum has come to be applied under conditions fairly representing all known manifestations of epidemic meningitis. Hence the test of the serum treatment may be regarded as having been a rigorous one. The initial difficulties surrounding the administration by direct subdural injection have been largely overcome and doubtless will be still further mastered. Already the serum is being successfully applied in private as well as in hospital practice. This gain will probably be reflected in a still further diminution of the mortality since early injection plays such a large part in determining the results achieved. The 1,300 cases studied in this report are a part only of a far greater number of cases actually treated with the serum supplied by the Rockefeller Institute. It was not found possible to secure histories of all the patients treated; but Flexner does not believe that the results of the analysis would have been essentially different if reports of a still larger number of cases had been returned. The decision arrived at is not based on statistical computations alone, but on objective data as well that are not readily misinterpreted.

The number of serum-treated patients subjected to analysis is 1,294. They have not been selected and a single exclusion has been practiced. The results were: Recovered, 894; died, 400—30.9 per cent.

The histories of 830 cases permitted of a judgment as to the manner of termination, and it was ascertained that in 30 per cent. the cessation was abrupt, or by crisis. Of the 1,294 patients fifty-six showed relapses after greater or less intervals of time. Prompt resumption of the serum injections often but not invariably sufficed to control and suppress the reinfections. Of the fifty-six patients forty recovered and sixteen died. Among them the mortality was 28.6 per cent., Mortality according to the period of injection of the serum:

Period of Injection	No. of Cases	Recovered	Died	Per Cent. Recovered	Per Cent. Died
1st to 3d day........	199	163	36	81.9	18.1
4th to 7th day	346	252	94	72.8	27.2
Later than 7th day ..	666	423	243	63.5	36.5
Totals	1,211	838	373	69.2	30.8

Mortality according to age:

Age	No. of Cases	Recovered	Died	Per Cent. Recovered	Per Cent. Died
Under 1 year........	129	65	64	50.4	49.6
1 to 2 years.......	87	60	27	69.0	31.0
2 to 5 years.......	194	139	55	71.6	28.4
5 to 10 years.......	218	185	33	84.9	15.1
10 to 20 years.......	360	254	106	70.6	29.4
Over 20 years	288	180	108	62.5	37.5
Age not given.......	18	11	7	61.1	38.9
Totals	1,294	894	400	69.1	30.9

Mortality according to age and period of injection:

Age	Injected 1st to 3d Day				Injected 4th to 7th day				Injected Later than 7th Day			
	No. of Cases	Recovered	Died	Per Cent. Died	No. of Cases	Recovered	Died	Per Cent. Died	No. of Cases	Recovered	Died	Per Cent. Died
Under 2 years..	13	12	1	7.7	37	28	9	24.3	159	81	78	49.1
2 to 5 years..	30	24	6	20.0	66	49	17	25.8	93	63	30	37.3
5 to 10 years..	55	49	6	10.9	69	61	8	11.6	77	61	16	20.8
10 to 20 years..	67	58	9	13.4	106	73	33	31.1	171	115	56	32.7
Over 20 years..	34	20	14	41.2	65	39	26	40.0	164	101	63	38.4
Totals	199	163	36	18.1	343	250	93	27.1	664	421	243	36.6

indicating that the relapses respond somewhat less well to the serum than the primary infections. The complications and sequels are reduced in number. In fact, the number of permanently injured among the serum-treated has become very small. Of all the severe sequels deafness has remained least influenced. Unhappily, injury to the internal ear takes place very early and sometimes before the diagnosis of meningitis has been made. In view of the great reduction in other severe effects, Flexner hopes that even this one may be diminished by a more uniformly early application of the serum. The arthropathies have not only been reduced in frequency but they have been shown to be amenable to direct injections of the serum. Undoubtedly the tendency to hydrocephalus in the young has been diminished, and the intraventricular injection of the serum has operated in several instances to abolish infection and inflammation of the cerebral ventricles and to reestablish communication between the ventricles and the subdural space of the spinal cord. Recovery, therefore, has been rendered complete.

Kansas Medical Society Journal, Kansas City

April, XIII, No. 4, pp. 139-182

31 Conservation of Ethmoid. J. E. Sawtell, Kansas City.
32 Inertia Uteri. E. W. Reed, Holton.
33 Hemorrhages—Antepartum and Postpartum. E. A. Reeves, Kansas City.
34 Sinusitis. C. Zugg, Kansas City.
35 Foreign Bodies in Air Passages and Esophagus. R. H. T Mann, Texarkana.

Maine Medical Association Journal, Portland

April, III, No. 9, pp. 1263-1310

36 Preliminary and Postoperative Treatment of Abdominal Operations. W. L. Cousins, Portland.
37 Certain Aspects of Arteriosclerosis. T. J. Burrage, Portland.
38 Evils Caused by Poor Development of Upper Jaw. S. J. Beach, Augusta.
39 Cancer. D. Cragin, Waterville.

Medical Record, New York

May 3, LXXXIII, No. 18, pp. 783-828

40 Pathogenesis of Gastric Crises of Tabes. W. Castelli, New York, and T. Pinel, Paris.
41 *Newer Ideas on Cancer Etiology. L. D. Bristol, Syracuse, N. Y.
42 Results of Operation for Gastric Ulcer. A. F. R. Andresen, Brooklyn.
43 Passing of Parasyphilis. S. Pollitzer, New York.
44 Significance and Management of Hypertension. H. F. Stoll, Hartford, Conn.
45 Post-Mortem Ophthalmoscopy. M. H. Kahn, New York.

41. **Cancer Etiology.**—After a brief review and criticism of the older theories, and a consideration of recent facts brought out in relation to the subject, Bristol suggests some new ideas as to the cause or causes of cancer, and treats the subject from the broad standpoint of a combination of biology, chemistry, physics, physiology, bacteriology and pathology rather than to consider it from the standpoint of any one of these alone. As a basis for the development of cancer, primary and secondary "precancerous" stages are discussed; the primary stage being local cell and tissue degeneration or necrosis due to all the known causes of such changes—a pathologic problem involving mechanical, chemical, physical, parasitic and physiologic factors; the secondary "precancerous" stage being a local disturbance of chemical equilibrium, a chemical rearrangement, including an affinity of these degenerated areas for, and an attraction to them of, certain inorganic salts of the blood—a problem of local disordered metabolism involving physical and chemical conditions in cell and tissue. It is then suggested that such a change in local chemical environment may influence the growth of neighboring cells by causing them to take on increased permeability, absorptive powers and oxidations, and lead to accelerated activity and growth, even to malignancy. Attempt is finally made to adapt these ideas to the important phenomena of cancer. Bristol says, for instance, that the common sites for the development of cancer, namely, the uterus, the stomach, the breast, the bowel, the skin, etc., are, in about the same ratio of occurrence, correspondingly liable to one or more of the primary causes of tissue degeneration, leading eventually to an attraction for the organic salts of the blood and an upset in local chemical equilibrium. The degenerated or dead cells of uterine glands, following chronic inflammation, disuse or overactivity; the dead or dying cells in a chronic gastric ulcer; the local necrosis in a breast following an abscess; the scar tissue resulting from a past typhoid or tuberculous ulcer in the bowel or from an old Roentgen ray burn of the skin, are all areas which have an affinity for inorganic salts of the circulation, and in each instance the dead cells show changed chemical reactions. Bristol believes that metastases are formed by the transportation of cells from the original growth, and that conditions are fairly well maintained in the medium through which they are carried (either the lymph or the blood) which encourage their continued division and growth, and that such growth is aided by a lessened general or local tissue resistance on the part of the diseased person. Loss in weight and strength, and anemia are rather common in all progressing cases of cancer, and these are not necessarily associated with obstruction to food or failure in appetite. These symptoms may be brought about by a disorder and disproportion in metabolism in which the tumor cells are rapidly absorbing food and salts from the blood and lymph, to the detriment of the other tissues of the body which are not only becoming starved, but at the same time are unable to give off those waste products which they contain, thereby resulting in more or less auto-intoxication. A disorder in general metabolism caused by even a small tumor may be as great in degree as the disorder in metabolism set up by such comparatively small bodies as the thyroid, parathyroid, ovary or pituitary body when their physiologic activities are disturbed.

Missouri State Medical Association Journal, St. Louis

April, IX, No. 10, pp. 323-356

46 Roentgenotherapy in Carcinoma About Eye. E. H. Skinner, Kansas City.
47 Treatment of Anterior Poliomyelitis. A. O'Reilly, St. Louis.
48 *Dyspepsias, with Special Reference to Diagnosis. G. B. Eusterman, Rochester, Minn.
49 Immunity. J. R. Hall, Napton.
50 *Self-Invaginating Hemostatic Stitch for Appendix Stump. J. H. Outland, Kansas City.
51 Plea in Behalf of Unborn. T. F. Lockwood, Butler.

48. **Dyspepsia.**—Eusterman points out that a functional dyspepsia may complicate a surgical lesion. Cases with early, mild, indefinite gastric disturbances dependent on gall-bladder or appendiceal disease are often included in this group until subsequent, localizing symptoms explain the probable etiology. Cases of functional hyperacidity may simulate ulcer. Test-meal analyses of hyperacid cases and chronic catarrh are similar to those found in gastric or duodenal ulcer and cancer, respectively. A mixed neurosis affecting both sensation and mobility, and accompanied by symptoms of general neurasthenia, constitutes the obscure and complex disorder known as neurasthenia gastrica or nervous dyspepsia. Alterations in the position of the stomach, whether congenital or acquired, oppose a mechanical obstacle to the propulsion of food into the duodenum and by causing secondary perversions of the other gastric functions may give rise to a form of dyspepsia which can only be distinguished from gastric neurasthenia by careful examination. The essential factors in the proper diagnosis of gastric and allied conditions which cause dyspepsia, according to the author, are: careful history taking; routine, thorough physical examination; a routine test-meal examination; if necessary, a skiagraph series or fluoroscopic study of the gastroduodenal area; a correct interpretation of all the data at hand; the general attitude of the patient, his general appearance, etc., should be observed. The careful physician should inquire into the daily habits, social environment, manner of eating, nature of food, condition of teeth, etc. He should correct the diet, urge proper mastication and institute natural, therapeutic or surgical measure as the case may be.

50. **Appendix Stump Treatment.**—The steps of the method which Outland has used successfully in 539 cases are as follows: The meso-appendix is ligated as usual. The junction of the appendix and caput coli is caught in a curved clamp, the convexity being toward the bowel; another curved clamp is fastened just above, and the appendix is cut close against the lower clamp. (This step does not differ from the same step in any appendectomy, except that the stump is cut as close as possible to the cecum.) A Lembert suture of linen thread is carried across the clamp and a stitch is taken parallel with the clamp. It is again carried across the clamp and a corresponding suture taken on the opposite side. The last stitch is passed beneath the clamp again. The end of the suture with the needle attached is taken in the left hand, the handle of the clamp is taken in the right hand, the assistant pulls on the other end of the suture, as the clamp is gently released and the jaws withdrawn from under the loops. Invagination is accomplished more perfectly by pulling on the meso-appendix end of the thread. The curved clamp is used because there is no difficulty in keeping the loops of the thread over the clamp until it is ready to be taken off. By using a rather heavy clamp the tissues between the jaws are so crushed together that no accident has been experienced by having the bowel contents escape before the ligature is drawn taut. The two ends of the thread are brought over and tied. After tying and before cutting, a loop is made under the appendicular artery and again tied. It is seldom necessary to reinforce the stump by other superimposed stitches. This suture properly placed is hemostatic.

New Mexico Medical Journal, Las Cruces

April, X, No. 1, pp. 1-28

52 Advantages of Combined Abdominal and Transpleural Operative Technic for Liver Abscess. W. L. Brown. El Paso, Tex.
53 Treatment of Compound Fractures. W. W. Spargo, Albuquerque.
54 Pellagra in Pecos Valley. C. F. Beeson, Roswell.

New Orleans Medical and Surgical Journal

April, LXV, No. 10, pp. 697-784

55 Control of Diphtheria. W. H. Seemann, New Orleans.
56 Nasal Diphtheria in Public Schools. E. Moss, New Orleans.
57 Heart in Diphtheria. J. B. Elliott, New Orleans.
58 Anaphylaxis: Report of Case. M. J. Magruder, New Orleans.
59 Diphtheria of Ear and Nasopharynx. W. Scheppegrell, New Orleans.
60 Corrective Plaster Jackets in Treatment of Scoliosis. E. S. Hatch, New Orleans.
61 Intravenous Ether Anesthesia: Report of Cases. E. L. Sanderson, Shreveport, La.
62 Cleft Palate. J. F. Oechsner, New Orleans.
63 Pancreatitis. W. T. Richards, New Orleans.
64 Vesical Calculi. L. Sexton, New Orleans.
65 Intestinal Obstruction. G. L. Stirling, Baton Rouge.

New York Medical Journal

May 3, XCVII, No. 18, pp. 905-956

66 Hematuria. V. C. Pedersen, New York.
67 Shoulder and Arm Paralysis of Poliomyelitis. B. Bartow, Buffalo.
68 Anomalies in Cardiac Rhythm. T. Howard, New York.
69 *Travels of a Nail. G. Rosenbaum, Philadelphia.
70 Paraurethrae. J. L. Herman, Philadelphia.
71 Fibromyoma Uteri. W. P. Healy, New York.
72 Carcinoma of Stomach: Its Early Diagnosis. J. V. O'Connor, Woonsocket, R. I.
73 Internal Treatment of Nephritic Diseases. H. Strauss, Berlin.
74 Chronic Nephritis. G. Parker, Burin North, Newfoundland.
75 *Edema of Glottis. G. K. Collier, Sonyea, N. Y.

69. **Travels of a Nail.**—A small and poorly nourished child, 2½ years of age, swallowed a long wire nail on December 16, 1912. Shortly after this he vomited and the vomitus was tinged with blood. The mother gave the baby purgatives and tried home remedies, but with no result. Two days later, after a dose of castor oil, the child suffered severe abdominal pain and became cyanotic for a short time. December 20 the child was referred to Rosenbaum. The temperature was 99 F., pulse 116 and respirations 28. No tenderness or rigidity of abdomen on palpation. Six skiagrams were taken, the first on December 20 and the last on December 29, the day the nail was passed from the rectum. All told, the nail was in the alimentary tract fourteen days. Four days it lodged in the stomach and six days were required to complete the journey through the small intestine, and the remaining four days for its passage through the large intestine. The child had daily evacuations during this period, and, while it was quite restless during its stay in the ward, it was in no sense ill. The temperature never rose above normal.

75. **Edema of Glottis.**—The unusual features of Collier's case are glottic edema occurring with epilepsy, and the rapidity of its course, two years.

Oklahoma State Medical Association Journal, Muskogee

April, V, No. 11, pp. 485-524

76 Unusual Cerebral Symptoms in Child of Ten Years. W. G. Little, Okmulgee.
77 Caisson Disease. B. H. Brown, Muskogee.
78 Associated Nervous Diseases of Women. D. M. Montgomery, Marlow.
79 Loss of Hearing in One Ear from Injury. J. H. Barnes, Enid.
80 Obstetric Surgery. T. B. Coulter, Chickasha.
81 The Throat and Its Value to General Practitioner. A. B. Leeds, Chickasha.

Ophthalmic Record, Chicago

April, XXII, No. 4, pp. 175-232

82 Needs of Eye, Ear, Nose and Throat Surgeon in General Hospitals. F. Allport, Chicago.
83 Method of Dealing with Capsule after Cataract Operations. D. F. Reeder, Ancon, C. Z.

Ophthalmology, Seattle, Wash.

April, IX, No. 3, pp. 321-478

84 Simplification of Operation of Krönlein. A. Magitot and M. Landrieu, Paris.
85 Wolfe Graft Used to Correct Total Ectropion of Upper Eyelid. N. H. Goodenow, Everett, Wash.
86 Altitudinal Hemianopsia, Unilateral and Bilateral. L. C. Peter, Philadelphia.
87 Large Incision in Cataract Extraction. E. F. Snydacker, Chicago.
88 Lacrimation. A. A. Bradburne, Manchester, Eng.

89 Case of Mumps with Interesting Ocular Complications. H. Worthington, Chicago.
90 Pseudoglioma in Children. F. Krauss, Philadelphia.
91 Accidental Tatooing of Cornea by Piece of Lead from Copying Pencil. S. H. Brown, Philadelphia.

Pennsylvania Medical Journal, Athens

April, XVI, No. 7, pp. 513-594

92 Dr. Benjamin Rush, Pioneer Investigator of Effects of Alcohol and Tobacco on Man. H. O. Marcy, Boston.
93 High Intestinal Obstruction, Postoperative Ileus and Acute Pancreatitis. J. E. Sweet, Philadelphia.
94 *Medical Aspects of Pulmonary Surgery. H. R. M. Landis, Philadelphia.
95 Surgical Aspects of those Diseases of Thorax which are Amenable to Surgical Intervention. S. Robinson, Boston.
96 Technic of Thoracic Operations. W. W. Babcock, Philadelphia.
97 *Intrathoracic Tumors. J. Sailer and R. G. Torrey, Philadelphia.
98 Diagnostic and Therapeutic Value of Needle Puncture of Maxillary Sinus. H. M. Goddard, Philadelphia.
99 Bilateral Pansinusitis; Operation; Thrombosis; Meningitis; Recovery. M. D. Ritchie, Pittsburgh.
100 Drainage of Accessory Sinuses in Atrophic Rhinitis. J. F. Culp, Harrisburg.
101 Treatment of Suppuration of Antrum of Highmore. E. B. Gleason, Philadelphia.
102 Exploratory Opening of Sphenoid Sinus. C. P. Grayson, Philadelphia.
103 Case of Injury to Eye. G. R. S. Corson, Pottsville.

94 and 97.—Abstracted in The Journal, Nov. 16, 1912, p. 1815.

Philippine Journal of Science, Manila

October, VII, No. 5, pp. 423-473

104 *Study of Polyneuritis Gallinarum. Degeneration of Nerve Fibers. E. B. Vedder and E. Clark.
105 Report of Pathologic Examinations for One Year from Surgical Clinic of Philippine General Hospital. P. K. Gilman and B. C. Crowell.

104. **Polyneuritis Gallinarum.**—In every one of the fifty-six fowls which had been fed by Vedder and Clark for thirty-five days or more on polished rice, changes indicative of degeneration (Marchi method) were seen in the fibers of the sciatic nerve, regardless of whether symptoms of neuritis had or had not manifested themselves before death. Advanced degeneration in the peripheral nerve fibers manifests itself by a change in both myelin sheath and in the axis cylinder. The myelin sheath breaks up into globules and droplets, which stain black in the Marchi solution—indicative of fatty degeneration. The axis cylinder breaks up into segments or disintegrates in all those fibers showing advanced degeneration in the medullary sheath. The degree of degeneration in the sciatic nerve corresponds closely with the extent of the paralysis of the legs. Advanced degeneration was observed in only 10 to 15 per cent. of the fibers of the sciatic nerve of fowls showing pronounced symptoms of leg paralysis. In the remaining fibers the change was not advanced. They could detect no difference in the degeneration in the sciatic and its peripheral branches either as regards extent or time of onset. Degeneration was observed in both dorsal and ventral nerve roots, being most pronounced in the latter. Degenerative changes in both axis cylinder and medullary sheath were seen in fibers of all columns of the thoracic spinal cord.

Changes were observed (Nissl method) in certain large cells of both ventral and dorsal horns of the gray substance of the lumbosacral cord. In the cells of both horns, the tigroid bodies were not visible, and the stainable material was collected at one side of the cell around the base of one of the processes. Cells were occasionally seen whose nuclei stained very poorly. Mitochondria were observed in the nerve cells of the lumbosacral cord, even though there was a pronounced alteration of the tigroid bodies. The mitochondria here were of similar appearance and almost or quite as numerous as in corresponding cells of the normal cord. In the medullary sheath of fibers of the sciatic nerve of normal fowls numerous small, bacilli-like rods, arranged radially around the axis cylinder, were made apparent by the various mitochondria methods. These structures are probably mitochondria. Fowls show alteration in the medullary sheath of the sciatic fibers after only seven days on a polished rice diet. In the sciatic fibers of fowls fed for seven days on polished rice alone, the rods are scarcely to be observed. Instead, the stainable material shows remarkable alterations and occurs in the form of irregular, branched and anastomosing masses. In fowls fed for a longer period, these masses show, in a certain percentage of the fibers, progressive changes which manifest themselves in the form of more definite skeins and segmentations and larger masses and globules of stainable material. In fibers showing marked degeneration by the Marchi method these occur as larger or smaller vesicular, oval globules and correspond to the black globules shown by the Marchi preparations.

When fowls are fed on polished rice and in addition given some protective substance, such as is contained in extract of rice polishings or in various foods, but in insufficient quantity to confer complete protection, the disease appears in its characteristic form and with all the evidences of nerve degeneration, but after a prolonged incubation period—forty-five to ninety days, or even after one year of such feeding (Eijkman). When fowls are fed on polished rice and in addition receive daily 10 grams of white bread or 5 c.c. of canned milk, they receive little or no protection from polyneuritis gallinarum. When fowls are fed on polished rice and in addition receive daily 10 grams of meat cooked or uncooked, 10 grams of potatoes cooked or uncooked, or 5 c.c. of fresh cow's milk, they receive partial protection as indicated by the prolongation of the incubation period. When fowls are fed on polished rice and in addition receive daily 10 grams of dried peas or 10 grams of peanuts, they receive complete protection for at least sixty days.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Brain, London

February, XXXV, No. 3, pp. 195-257

1 *Pedigree Showing Both Insanity and Complicated Eye Disease: Anticipation of Mental Disease in Successive Generations. E. J. Lidbetter and E. Nettleship.
2 *Case of Progressive Lenticular Degeneration. J. E. H. Sawyer.
3 *Case of Periodic Paralysis. H. W. Gardner.

1. **Pedigree Showing Insanity and Complicated Eye Disease.**—The pedigree which forms the basis of this paper shows an association between mental deficiency and ocular defects, partly developmental and partly morbid. Among the members of this family, who are not known to have had any defined mental or bodily disease, a large proportion have been recipients of poor law relief, showing that they were not well enough endowed mentally and physically to compete successfully in life. The mental deficiency in this family tends to appear at an earlier age in each succeeding generation (anticipation); but anticipation cannot be proved for the ocular defects. The pathologic changes are chiefly detachment of the retina, based on disease of the chorioid, but with iritis and secondary cataract in some cases. Both the mental and the ocular conditions are hereditary.

2. **Progressive Lenticular Degeneration.**—The particular points of interest in Sawyer's case are: The age of the patient (19) at the commencement of the symptoms. The disease has now been manifest for seventeen years, whereas in all the others there was a fatal termination within seven years. The tremors are always present, but vary in intensity from day to day, whereas in the recorded cases when they had developed they never seemed to diminish. The muscular rigidity does not appear to have been less on one day than another in any of the recorded cases. In this patient the rigidity never disappears, but it varies in intensity from day to day, and also while under examination the rigidity changes distinctly in different parts of the body. A limb which is at one time extremely rigid may at another become comparatively flaccid. There are no true contractures in this case. In all

the other cases these were such a marked symptom when the disease had been present even for a short time. There is no dysphagia in this patient, only a difficulty in mastication. There is no emaciation or weakness. The patient is not fat, but he is quite strong. The nervous symptoms present in this patient, according to Sawyer, leave no doubt that the lesion is situated bilaterally in the lenticular nucleus. He describes all the findings in detail.

3. **Periodic Paralysis.**—The patient, a boy, aged 17, told Gardner in the spring of 1907 that for the last two years he had been subject to attacks of complete loss of power in his arms and legs. The first attack occurred in August, 1905. It came without any warning. He woke up one morning and found that he was unable to move his head, arms and legs. His head ached and so did his back, arms and legs, and he felt weak and ill. The attack lasted all day. During it he was unable to pass water, and his club doctor was sent for, who drew it off with a catheter. Next morning he woke up feeling as well as ever and returned to work. The second attack was precisely similar, and occurred nine months later (May, 1906). The third attack occurred six months after the second. The fourth attack after an interval of another three months. The fifth attack after an interval of another two months. The sixth attack after an interval of one month only. An interval of two weeks only had intervened between the sixth attack and the present one—the seventh. Not only had the attacks come more and more frequently, but they were also more prolonged; the sixth attack began on a Sunday morning and lasted three whole days.

On Wednesday morning when he woke up he found himself quite well once again. He had never had any illness, had not suffered from infantile convulsions; he had been a strong healthy boy, fairly intelligent, leaving school in the fifth standard, never nervous or delicate in any way. He had, however, been subject to "sick headaches" for as long as he could remember, generally at intervals of two or three months. His head used to feel heavy; he used to see "zigzag lines and round circles," and the attacks would end in vomiting, relieving the headache. Then he would sleep for two or three hours, and wake up feeling quite well. Since the attacks of paralysis began these sick headaches had ceased.

Patient belongs to a strong, healthy family by no means neurotic. His father, mother, five brothers and three sisters are alive and well and strong. One brother died in infancy. His mother and one brother suffer from occasional "bilious headaches." There is no history of any similar attacks of paralysis having occurred in his family, either on the father's side or the mother's, nor is there any history of epilepsy or any other nervous disease. Gardner came to the conclusion that the attacks of periodic paralysis were due to auto-intoxication, the presence of the toxins being due to some congenital defect in metabolism.

The treatment was: 1. The patient was to give up drinking beer altogether, and to avoid all rich food; and he was to drink large quantities of water. 2. To take magnesium sulphate, ʒi in half a pint of hot water on rising every morning. 3. To take 2-grain pills of calomel, once a fortnight at bed time, followed by Epsom salts in the morning. 4. To take tincturae digitalis ♏ iv; potassii acetatis, gr. xx; syrupi ʒss; aquae menthae piperitae ℥i, ter die, 5. To take caffeinae citratis, gr. viiss; potassii bromidi, gr. x; acidi hydrobromi. dil., ♏ xv; syrupi ʒss; aquae chloratae ℥ss., in a tumblerful of water whenever any warning symptoms of an attack make their appearance.

The success of treatment was very great. The attacks which had been getting more and more frequent, and threatened to incapacitate the patient, at once ceased. It was two years before he had another attack; once or twice warning symptoms occurred, but a dose of the caffein mixture proved sufficient to avert it. Then came the attack after a hard game of football. The patient was told to take his calomel pills and a dose of his caffein mixture, and to eat a light supper and drink no beer and much water after a football match in the future. As long as he did this he played football matches with impunity. Then the patient discontinued all treatment and drank beer again. The attacks recurred, and threatened to become more frequent.

British Medical Journal, London

April 19, I, No. 2729, pp. 805-864

4 Malingering, Valetudinarianism and Their Prevention. B. Bramwell.
5 Malingering. C. J. Bond.
6 Plea for Medical Referees Versus Inspectors. J. Collie.
7 Studies on Beriberi. C. Funk.
8 Alimentary Toxemia: Cutaneous Indications of Alimentary Toxemia. J. Galloway.
9 Chronic Intestinal Stasis. A. F. Hertz.
10 Bacteriologic Evidence of Intestinal Intoxication. J. C. G. Ledingham.

Dublin Journal of Medical Science

April, III, No. 496, pp. 241-320

11 *Celiac Affection. H. C. Drury.
12 *Tuberculin Treatment of Pulmonary Tuberculosis. G. B. Dixon.
13 Three Cases of Tuberculous Disease of Lower End of Femur, *Illustrating Points in Pathology* and Treatment. W. I. de C. Wheeler.

11. **Celiac Affection.**—Drury cites a case of what Gee has described as an intestinal disorder, most commonly met with in children between the ages of 1 and 5, characterized by the occurrence of pale, loose stools, not unlike gruel or oatmeal porridge. They are bulky, not watery, yeasty, frothy and extremely offensive. The affection has received various names, such as diarrhea alba or diarrhea chylosa. It is not associated with tuberculosis or other hereditary disease. It begins insidiously, and there are progressive wasting, weakness and pallor. The belly becomes doughy and inelastic. There is often flatulency. Fever is usually absent. The disease is lingering, and a fatal termination is common. So far nothing is known of the pathology of the disease. Ulceration of the intestine has been met with, but it is not constant. The treatment is—stop all milk and carbohydrate food, and feed entirely on raw meat and meat extracts. Within two or three days of the adoption of this line of treatment the stools begin to assume the ordinary color; they are smaller in quantity and number, but even more offensive than before. This, however, gradually subsides. The abdomen, too, becomes less and less distended, and finally quite normal in appearance. The chief difficulty seems to be to get the patient gradually on to ordinary diet and to know when to begin to try to do this. In Drury's case the patient seemed to remain *in statu quo* as long as she was on the purely meat diet, but when Drury began to slowly increase her carbohydrate food she gradually began to enliven up and very slowly to put on weight. She became quite well.

12. **Tuberculin in Lung Tuberculosis.**—Dixon's discussion of this subject emphasizes the fact that to obtain the best results from tuberculin injections every attempt should be made to reach the maximal dose of the preparation which is being used, and if this is done it will usually be shown that the patient's immunity has been raised and that he is in a much better position than he previously was to withstand fresh infection, as evidenced by the absence of relapses; for how long this high level of immunity can be maintained is a point which it is very difficult to determine. After a full course of tuberculin injections, any recurrence of symptoms or any increase in or reappearance of physical signs should be an immediate indication for the continuance of injections. Dixon points out that if this course were more universally adopted many patients would be saved from those acute phases which so frequently occur in the course of pulmonary tuberculosis, and one of which so frequently terminates fatally. Small doses of tuberculin administered for a short period of time are usually worse than useless unless such a course of treatment is secondary to a previous full course, or unless it is to be repeated. Inasmuch as tuberculin is powerless to alter gross lesions in the lungs, so in marked cases of the disease one should not judge results by the change produced in the physical signs.

Lancet, London

April 5, I, No. 4675, pp. 937-1006

14 Genital Functions of Ductless Glands in Female. W B Bell.
15 Intrathoracic Aneurysm. F. de H. Hall.
16 Non-Parasitic Cysts of Liver. S. Boyd.

17 Pathology of Tuberculosis in Infancy and Childhood. C. P. Lapage and W. Mair.
18 Acute Tuberculous Pneumonia: Recovery. S. N. Galbraith.
19 Technic of Excision of Cervical Ribs. A. S. B. Bankart.
20 Epithelioma of Auricle and Cervical Glands; Removal of Auricle and Glands. N. Patterson.

April 19, No. 4677, pp. 1075-1146

21 *Operative Treatment of Malignant Disease of Mouth and Pharynx. W. Trotter.
22 Morbid Anatomy of Periodontal Disease. J. F. Colyer.
23 *Abdominal Pain in Infants. E. Prichard.
24 Extradural Abscess at Apex of Petrous Bone. H. F. Tod.
25 Pneumococcal Abscess of Lung in Children. L. E. Barrington-Ward.
26 Periosteal Sarcoma of Fibula with Unusually Rapid Though Typical Complications. F. J. Wadham and E. L. Horsburgh.
27 *Use of Sugar in Heart Disease. S. E. Denyer.

21. **Malignant Disease of Mouth and Pharynx.**—Trotter holds that more mistakes are made in the direction of pronouncing tumors inoperable than in attempting operations which cannot be completed. The reason for this, he believes, is that in advanced gland cases of malignant disease of mouth and pharynx the principal mass is usually under the upper end of the sternomastoid and fixed to it near its insertion. This gives the erroneous impression that the growth is fixed to the spine. Glands beneath the muscle are also likely to appear ill-defined and diffuse when they are in fact not so. When glands not under the muscle are indefinite and accompanied by brawniness of the skin and edema it is generally quite useless to operate. Trotter regards it as being very remarkable how the common and internal carotids and the vagus escape involvement in gland masses until very late. Such masses tend to spread backward and involve the muscles on the floor of the posterior triangle long before they attack the common carotid. When the common carotid and vagus are involved it is doubtful whether the operation should be carried out, and much would depend on the kind of primary growth and the condition of the patient. Removal of these two structures is a serious addition to the danger of the operation in itself, but it implies such extensive disease that cure is practically impossible. The limits of operability, then, lie less in technical difficulties than in the uselessness of the operation.

23. **Abdominal Pain in Infants.**—In quite young infants, Pritchard says, there is little to distinguish the pain due to abdominal disturbance from pain due to other causes. In this, as in other painful conditions, the legs will be drawn up, the arms flexed, and the hands probably clenched; the *recti abdominales* will be tense and the abdomen hard. There may be areas of hyperesthesia, but they are difficult to locate, as the infant may be more or less tender all over. With abdominal pain, however, the baby usually appears to be comforted by gently rubbing the abdomen or when laid face downwards on a pillow. Heat applied to the abdomen usually gives relief. The causes of abdominal pain in their approximate order of frequency are given as follows: 1. Dysperistalsis of the intestines, including enterospasm caused by irritation, obstruction, or nervous incoordination. 2. Disturbances of the motor functions of the stomach, including pyloric spasm, hourglass contraction, spasm of the cardiac sphincter from wind, food or other causes. 3. Incoordination of the motor functions of the bladder, spasm of the sphincter, vesicae, etc. 4. Referred pain from the thoracic cavity, pneumonia, pleurisy, empyema, etc. 5. Renal colic. 6. Spinal caries and osteomyelitis. 7. Peritonitis, appendicitis, etc. The only way, Trotter concludes, to appreciate the illusive symptoms of the impressionist baby is to live with it, or even to sleep with it, but pain must not be regarded as an unmixed evil; it is often a most valuable educational medium.

27. **Sugar in Heart Disease.**—Denyer's patient, aged 77 years, had an irregularity of the pulse for some years. On Nov. 8, 1912, she had a bad heart attack, with rapid, irregular, feeble pulse, cyanosis, and attacks of paroxysmal breathing, which occurred about 5 or 6 a. m. There was no edema at this time, or at any time during the illness. On November 14 the patient seemed to be dying. Denyer ordered some lumps of ordinary white suger to be given in milk, and added some syrup to her medicine, telling them to give 4 ounces of sugar during the night. In the morning the patient was very weak, but less cyanosed and with a stronger, slower pulse. Digitalis had been omitted as well as digitalin, as these had no effect on the heart or pulse. Four ounces of sugar were ordered during the ensuing twelve hours, and after that it was continued in smaller quantities for some weeks. The patient made a slow but steady improvement, the breathing attacks getting less frequent and the pulse stronger and more regular. Her general weakness was very great and she gained strength very slowly. By the end of February she was able to go out into the garden for a few minutes, and to walk up and down stairs.

Bulletin de l'Académie de Médecine, Paris

April 1, LXXVII, No. 12, pp 229-266

28 Spirochetes Found in General Paralysis. (Présence du treponema pallidum dans un cas de méningite syphilitique associée à la paralysie générale et dans la paralysie générale.) G. Marinesco and J. Minea.
29 From the Seat of War. (Des enseignements de la guerre des Balkans, 1912.) M. Delorme. See Paris Letter, p. 1311.
30 Tobacco Angina Pectoris. (L'angine de poitrine tabagique.) C. Fiessinger. See Paris Letter, p. 1473.

Presse Médicale, Paris

April 9, XXI, No. 29, pp. 285-292

31 Fracture of the Ulna with Dislocation of the Head of the Radius. E. Kirmisson.
32 Technic for Cauterization with Carbon Dioxid Snow. (La cautérisation par le froid.) R. Burnier

Revue de Chirurgie, Paris

April, XXXIII, No. 4, pp. 429-642

33 *Recent Fracture of the Heel Bone. (Fractures du calcanéum.) P. Soubeyran and A. Rives.
34 *Bleeding Polyps in the Rectum. (Les hémorragies des polypes du rectum.) P. Mocquot.
35 *Injury of Stomach from Swallowed Corrosives. (Les brulures de l'estomac consécutives à l'ingestion d'acides.) X. Delore and L. Arnaud.
36 Modern Technic for Goiter Operations. H. Alamartine.
37 Reflex Pain in the Epigastrium with Appendicitis. S. Solieri.
38 *Primary Melanoma in the Rectum. (Les tumeurs mélaniques primitives du rectum.) A. Chalier and P. Bonnet. Commenced in preceding volume.

33. **Fracture of the Calcaneum.**—Soubeyran and Rives review the various types of fracture of the heel bone, the special symptoms of each and the special technic to apply in treatment of each form. The anterior and middle segments were involved in sixty-nine of the 137 cases they have compiled. In ninety-two cases in which the sex was mentioned seventy-nine of the patients were males. In only three cases were the patients under 20 years of age. Fracture of the heel bone may be regarded as an occupational accident in masons, roofers and carpenters. The diagnosis is seldom correctly made without roentgenoscopy. Ehret states that the fracture was diagnosed in only three of the forty-seven cases he had collected. Failure to diagnose the fracture may lead to serious trouble, persisting pain and functional incapacity. The main thing is not to treat the fracture as a sprain or contusion; in the mild cases the symptoms may be very misleading, but treatment as for a sprain although apparently curing all trouble is yet only transient in its effects, and the removal of the cause will have to be undertaken later. Even with correct treatment, consolidation does not occur under sixty days. They warn expressly against use of the foot before this as too early use may cause serious and permanent functional disturbance. The fracture generally occurs from a fall landing on the feet. Sometimes there is not much pain or impotence at first but both increase in the following two or three hours until the patient can no longer keep up and about.

34. **Bleeding Polyps in the Rectum.**—Mocquot compares a personal case observed with the literature on the subject, all data tending to show that hemorrhage with a pedunculated adenoma in the rectum comes from the tumor itself and not from the mucosa around. The hemorrhage occurs when the polyp becomes twisted on its pedicle by the passing masses of stools, and the polyp bleeds on the surface and in its interior. His patient was a child of 12 and the large polyp grew from the wall of the rectum just above the anus.

35. Injury of Stomach from Corrosive Acids.—Delore and Arnaud describe three cases of corrosive lesions in the stomach without much injury of the esophagus. The patients were from 24 to 52 years old and the cases show the different types of lesions that may follow drinking a corrosive substance. One woman had swallowed half a glass of hydrochloric acid; she did not vomit and it was impossible to introduce the stomach pump. The stomach was opened thirty-six hours later and the patient died the same night. The walls of the stomach were black, as if charred by fire, down to the pylorus, the duodenum beyond being absolutely intact. The pancreas showed intense congestion in the body and tail. The patient had not taken any fluids after the acid so that it had not been diluted. In the second case a man drank half a glass of sulphuric acid by mistake. He followed it immediately with two glasses of lemonade, vomited freely fifteen minutes later, and by the end of the hour drank some Vichy water and milk. During the next few days he vomited occasionally and there was some ulceration in the pharynx. After two weeks he began to vomit more frequently and lost flesh. Gastro-enterostomy was then done; a patch of cicatricial tissue was found in the antrum and all disturbances disappeared after the gastro-enterostomy. The third patient drank a glass of nitric acid which scorched the esophagus and stomach as she drank it and also when she vomited some of it up ten minutes later. Ipecac was given and copious vomiting followed, with blood in the vomit. Later she was given 40 gm. of calcined magnesia dissolved in a liter of water which she sipped from time to time. No attempt was made to rinse out the stomach on account of the tendency to hematemesis and the extreme depression. The vomiting gradually grew less frequent and the patient felt better but every attempt to eat or drink brought on the vomiting anew. She could keep down nothing except a suspension of bismuth; this suppressed the pains but the intolerance of the stomach increased as the diffuse cicatricial lesions developed. Gastroenterostomy gave great relief but the result was less favorable than in the second patient as the lesions were more diffuse. It is possible that jejunostomy, leaving the stomach absolutely at rest, might have given better results.

The lesions in these cases of corrosion are always most intense in the lowest part of the stomach, where the fluid accumulates. An immediate operation permits the organ to be emptied and rinsed out and when this is impossible by the natural route, the operation might be considered. Jejunostomy done early is to the stomach in these conditions what gastrostomy is when the esophagus is the seat of the lesion; it checks the development of cicatricial changes. In case of diffuse cicatricial gastritis, like that presented by the third patient, operative treatment is indispensable. Stenosis of the esophagus or pylorus may develop long afterward. This suggests the importance of inquiring as to a history of possible injury of this kind from a caustic fluid when a patient applies for treatment for stenosis of the pylorus. On account of the possibility of stricture developing in the esophagus, it may be wise to fasten the stomach to the wall in concluding a gastroenterostomy. This would permit feeding the patient through a gastrostomy with very little trouble in case this became necessary. Although severe necrosis of the gastric tissues developing at once is still almost inevitably fatal, yet the cases in which the destructive process is less acute and entails merely cicatricial lesions have benefited by the progress of gastro-intestinal surgery.

38. Primary Melanoma in the Rectum.—Chalier and Bonnet here conclude their long study of this subject based on sixty-four cases with operative treatment in forty-four. Of the thirty-nine patients who survived the operation the later history is known in twenty-nine cases. Recurrence with or without metastasis followed in 58.62 per cent.; the intervals ranged from a few weeks or months to fifteen, eighteen or twenty-seven months. The recurrence is generally local or in the inguinal glands. Tuffier operated on a recurrence in both rectum and inguinal glands nineteen months after the first operation and the patient survived eight months. Drenkhahn has reported a survival of two and a half years after the operation for recurrence.

Revue Mens. de Gynécologie, d'Obstétrique et de Pédiatrie, Paris

March, VIII, No. 3, pp. 149-220

39 Incomplete Forms of Syphilis in Pregnant Women. (Quelques cas de syphilis fruste observés chez des femmes enceintes.) G. Calderini.
40 Vulvovaginal Thrombi and Hematomas. A. Van Couwenberghe.
41 Salvarsan in Puerperal Fever; Four Cases. G. Bleynie.

Beiträge zur Klinik der Tuberkulose, Würzburg

XXVI, No. 3, pp. 245-333. Last indexed April 19, p. 1267

42 *Poncet's Inflammatory Tuberculosis. F. v. Gebhardt.
43 A Refractory Phase in the Tuberculin Reaction. K. Vorpahl.
44 Diaphragm Hernia, Probably Traumatic, in an Adult Consumptive. L. Melchior.
45 *Importance of Albumin in Sputum for Early Diagnosis of Tuberculosis. (Ueber den Nachweis von gerinnbarem Eiweiss im Sputum und seine Bedeutung.) J. Kauffmann.
46 Technic for Artificial Pneumothorax. S. Bang.
47 *Necropsy after Artificial Pneumothorax; Three Cases. (Drei Todesfälle mit Obduktion nach Behandlung von Lungentuberkulose mit künstlichem Pneumothorax.) C. Sundberg.

42. Inflammatory Tuberculosis.—Gebhardt reports three cases which seem to sustain Poncet's views in regard to the participation of tuberculous infection in a certain proportion of cases of joint trouble. In one case there was at first merely arthralgia, in the second a subacute process, both passing into a chronic stage entailing ankylosis; in the third case, the tuberculous rheumatism led to polysynovitis. The patients were men from 27 to 39 years old and the joint affections were followed by pulmonary tuberculosis in the first two cases while a pulmonary process had preexisted in the third case. The joint trouble developed in the course of tuberculin treatment in this latter patient; an old tuberculous process in the back of the left hand became mobilized under the influence of the tuberculin treatment, and spread in the form of tuberculous rheumatism, followed by chronic polysynovitis. A guinea-pig inoculated with fluid from a synovial process died the fifth week of chronic tuberculosis as also another, the third week, inoculated with pus from the hand process.

45. Diagnostic Import of Albumin in the Sputum.—Kauffmann states that tests for albumin in the sputum gave constantly positive findings in his 108 tuberculous patients examined. The test is extremely simple and can be applied in a few minutes at the bedside. Albumin does not appear in the sputum in chronic bronchitis, but it occurs in pneumonia, congestion catarrh and fetid bronchitis. The finding of albumin in the sputum instructively confirms the positive evidence of the skin and subcutaneous tuberculin reactions; it indicates an active tuberculous focus and locates it in the lung. As the tuberculous focus heals, the albumin disappears from the sputum. In pneumonia, it disappears from the sputum after the crisis. If it is found later, this indicates the development of new foci or empyema or that there is existing pulmonary tuberculosis. The technic has been repeatedly described in THE JOURNAL. The sputum is shaken up with a little acetic acid which precipitates out the mucin and nucleo-albumin. The filtrate is then tested for albumin by boiling or with potassium cyanid. Kauffmann applied both tests, adding a few drops of a concentrated salt solution to the filtrate and boiling, or a few drops of the cyanid were added to the filtrate. In dubious cases the cyanid solution can be poured on the filtrate; a whitish gray ring forms at the zone of contact.

The sputum must come from the lower air passages and not from the throat. The importance of this test is most marked in the incipient stages of pulmonary tuberculosis. The findings may be negative until a subcutaneous injection of tuberculin induces a focal reaction. In one case the findings were negative until the dose of tuberculin was doubled, when the temperature rose but there was no apparent focal reaction and yet albumin appeared in the sputum and the later course of the case confirmed the positive findings. In thirty-seven of his cases the tuberculosis was in the earliest phase and no tubercle bacilli were found on daily examination but the albumin reaction was constantly positive. Geerard declares that a negative skin tuberculin reaction and positive albumin reaction are signs of a non-tuberculous pulmonary affection; while a positive skin reaction and negative albumin reaction signify latent tuberculosis. When both reactions are positive, an active tuberculous process in the lung may be assumed. The albumin occurs in the sputum in a number of other affections, in heart and kidney disease and in pulmonary edema. Its great value is that it enables pulmonary tuberculosis to be differentiated from bronchitis. In two of the cases of chronic bronchitis reported the albumin test had been constantly negative, and necropsy failed to reveal any trace of a tuberculous focus.

47. **Artificial Pneumothorax.**—Sundberg gives the necropsy findings in three fatal mishaps after pneumothorax had been induced with the usual technic. He states that B. Hansen collected last May from the literature thirty-one cases of serious symptoms, with a fatal termination in eight cases. In Sundberg's first case a woman of 28 developed immediately hemiplegia and unconsciousness, and died thirty-six hours after the eighth injection by the usual technic. The collapse occurred before the needle had been introduced into the cannula and before the faucet had been turned to admit the gas. The second patient was a man of 49 who died from dyspnea three hours after the twenty-second injection. The symptoms of shock developed in two or three minutes and although the pulse kept good yet the dyspnea progressed, the mind constantly clear to the end. The third patient was a young woman who died a few minutes after the sixth insufflation. The necropsy findings confirmed in the first case the assumption of spasmodic contracture of vessels with multiple thrombosis and multiple softening of the cerebral cortex—all evidently reflex phenomena. The second case was an example of reflex spasm of the larynx. The third patient presented findings indicating vasomotor disturbances. Nothing was found in any of the three cases to suggest gas embolism as the cause of the disturbances.

Berliner klinische Wochenschrift

April 7, L, No. 14, pp 621-668

48 *Treatment of Gastro-Intestinal Hemorrhage. (Magen- und Darmblutungen.) I. Boas.
49 Bile Peritonitis. (Gibt es eine gallige Peritonitis ohne Perforation der Gallenwege?) C. Nauwerck and Lübke.
50 Treatment of Vincent's Angina. J. Citron.
51 Bolus Alba for Sterilization of the Hands. (Ueber die Händedesinfektion mit Bolusseife und paste nach Liermann.) K. Kutscher.
52 *Serodiagnosis of Cancer. (Erfahrungen mit der Abderhalden'schen Fermentreaktion beim Carcinom.) E. Frank and F. Heimann.
53 Etiology of Rabies. (Tollwut.) F. Proescher (Pittsburgh).
54 *Preservation of Anatomic Specimens in Sugar Solutions. (Konservierung von Dauerpräparaten in konzentrierter Zuckerlösung.) G. Magnus.
55 *Variations in Chicken Sarcoma Caused by Filtrable Agent. (Beobachtungen an einem Hühnersarkom und seiner filtrierbaren Ursache.) P. Rous and J. B. Murphy.
56 Cisterns and Malaria at Jerusalem. (Das Cisternenproblem bei der Bekämpfung der Malaria in Jerusalem. W Brunn and Goldberg.

48. **Hemorrhage in Gastro-Intestinal Tract.**—Boas remarks that hemorrhage in the alimentary canal is one of the few fields still entirely in the hands of the internists and that the last two decades have brought decided progress in the line of warding off serious hemorrhages in the stomach or intestines by prophylactic measures based on the discovery of invisible blood in the stomach content or stools. Experience has demonstrated that no serious gastro-intestinal hemorrhage occurs without a preceding warning of occult bleeding through weeks, months or even years. This prophylaxis should be instituted for all forms of a local hemorrhagic tendency, from the esophagus to the rectum, stasis hemorrhages and hemorrhagic infarcts as well as the bleeding from ulcerating processes. The premonitory stage of occult bleeding may escape recognition, but Boas has found it in 94.5 per cent. of his gastric cancer cases and Zöppritz in the same proportion. Occult bleeding from a gastric or duodenal ulcer should receive the same treatment as if it were a severe hemorrhage. The patient must be kept in bed and on a milk diet (3 or 4 liters) with Carlsbad Mühlbrunnen water, with or without salt, until three or four days elapse without positive findings under the most careful tests for occult bleeding. The invisible hemorrhage may last for only a few days or may be evident for several weeks, but he never permits a patient out of bed or allows anything beyond milk until the last traces of blood have entirely vanished and for a period of three or four days. Visible hemorrhage occurs with gastric cancer in from 12 (Lebert) to 50 (Rosenheim) per cent. of all cases. Boas found it in 36 per cent. of his 100 patients with gastric carcinoma. With cancer, the hemorrhage is only exceptionally of an acute, threatening character, but it is liable to persist indefinitely, and consequently the diet should consist mainly of fluid food and eggs, when operative treatment is impossible.

When a gastric ulcer heals the predisposition still remains, and the patient must be kept under constant medical supervision. Recurrence should be suspected at once if pain returns and the stools show much change in color. In case of manifest hemorrhage in the gastro-intestinal tract, the liver and spleen should not be overlooked in examining the patient. He has had cases of gastro-intestinal hemorrhage in young people which seemed to come unmistakably from a gastric ulcer and yet the enlargement of the liver or spleen suggested a possible syphilitic origin for the trouble, the Wassermann test elicited a positive reaction, and specific treatment promptly restored conditions to clinically normal. In treatment of severe hemorrhage the danger from doing without food is not to be considered in comparison with the danger of bleeding to death. No food should be allowed except minute regular amounts of cold tea, ice-cold milk or egg-white jelly. Boas agrees with those who say that nutrient enemas feed the imagination more than they feed the body, but proctoclysis is of extreme importance. One liter thus given, a drop at a time, in the course of twenty-four hours is generally enough. The addition of fifteen drops of 1 per thousand epinephrin solution enhances the tonic effect of the proctoclysis. An ice-bag on the abdomen aids in arresting the hemorrhage, and is also useful to keep the patient still. Gelatin has not fulfilled its promise as a hemostatic but still it should never be omitted in severe cases of internal hemorrhage; the same applies also to rectal injections of calcium chlorid. He has never witnessed appreciable benefit from epinephrin taken internally, and neither has Ewald. As a last resort, rinse out the stomach with ice water; Kehr has recently added his endorsement of this measure. It is worth a trial when palpation shows that the stomach is full of clots and these keep up an irritation.

The behavior of the pulse teaches whether the danger of hemorrhage is still impending; a weak pulse and defective filling of the arteries shows that we are far from having conquered the tendency to hemorrhage. The finding of blood in the stools does not indicate whether it is of old or recent origin. In case of doubt it is better to exercise the greatest caution for the following week, especially in regard to diet and repose. The lower the abdominal hemorrhage the more amenable it is to our measures; the lower the site the less chance of serious acute bleeding. In regard to hemorrhoidal hemorrhage, great progress has been realized in the systematic use of local injections of calcium chlorid. This does not cure the hemorrhoids themselves, but there is nothing to hinder resuming this local treatment for a few weeks if the hemorrhoids begin to bleed again. He warns that it is not always easy to get a good quality of calcium chlorid. It should always be prescribed as calcium chloratum, cristallisatum, adding the chemical formula $CaCl_2$. These injections, done properly and systematically, generally have such a prompt action that for years he has not recommended operative or non-operative treatment of hemorrhoids for bleeding alone. Only when, besides the recurring hemorrhages, the size and prolapse of the hemorrhoids are very annoying, does he advise their removal. The treatment of gastro-intestinal hemorrhage, he remarks in conclusion, is extremely important and even a life saving measure, but this is only the first step. To remove the cause is the main thing, and often this is far more difficult.

52. **Abderhalden's Biologic Test for Cancer.**—Frank and Heimann obtained a positive reaction in fifty-three of fifty-four cancer patients, that is, in 98.2 per cent., while in twenty normal persons, 95 per cent. were negative. The next ques-

tion is to determine the behavior of the reaction in other diseases, syphilis, acute infections, exophthalmic goiter, etc.; also whether the test can be advantageously modified and whether it occurs with incipient cancer.

54. **Preservation of Anatomic Preparations in Strong Sugar Solutions.**—Magnus has been preserving specimens in a thick solution of sugar, such as fruit is preserved in, and he extols the advantages of this simple, inexpensive and convenient method. The results were extremely satisfactory even in regard to retention of colors when the jar had been exposed to the sunlight for six weeks. The tissues do not become stiff and brittle but cut with exceptional ease for microscopic examination. He first kept the specimens for from six to twelve hours in the usual formaldehyd solution and then twelve to twenty-four hours in 50 per cent. alcohol, before transferring to the oversaturated sugar solution. Only enough water was added to ordinary beet sugar to dissolve most of it, leaving still a little sugar at the bottom of the jar.

55. Compare with articles in the *Journal Exper. Med.* in January and April issues, 1913.

Correspondenz-Blatt für Schweizer Aerzte, Basel

March 29, XLIII, No. 13, pp. 385-416

57 Traumatic Enophthalmus. A. Dutoit.

April 12, No. 15, pp. 449-480

58 Special Advantages of Therapeutic Cataphoresis for Infectious Corneal Processes. (Erfahrungen mit Iontophorese.) F. Stocker. Commenced in No. 14.
59 Instantaneous Roentgenography from the Medical Standpoint. (Medizinische Bedeutung der Röntgen-Momentaufnahme.) J. Schwenter.

Medizinische Klinik, Berlin

April 6, IX, No. 14, pp. 523-566

60 *Diagnosis of Duodenal Ulcer. E. Allard.
61 Salvarsan and the Nervous System. E. Mattauschek.
62 Bile Hernia. (Cholocele—Gallenbruch.) E. Levin.
63 *Acute Addison's Disease. A. Lippmann.
64 Artificial Pneumothorax. (Ueber Lungenkollapstherapie mit bes. Berücksichtigung des künstlichen Pneumothorax.) A. Scherer.
65 Benzol in Treatment of Myeloid Leukemia. H. Reibmayr.
66 Rupture of Spleen from Slight Trauma in Typhoid. (Fall von Milzruptur durch leichtes Trauma bei Typhus als Unfallfolge.) S. Ishioka.
67 Localization of Acute Gout in the Larynx. W. Buss.
68 Acute Lead Poisoning. (Zur Klinik und Toxikologie der akuten Bleivergiftung.) A. v. Decastello and A. Oszacki.

60. **Diagnosis of Duodenal Ulcer.**—Allard does not approve of the "American plan of doing an exploratory laparotomy on suspicion of duodenal ulcer," and yet he admits that the characteristic symptoms of duodenal ulcer may be encountered with a gastric ulcer alone and that a duodenal ulcer may run its course without any chronic symptoms. He has found the test for occult blood an important aid, especially when preceded by an oil test breakfast. This induces a reflux of duodenum contents into the stomach and in case of a duodenal ulcer blood may then be found in the stomach content when otherwise it is constantly free from blood. He cites three cases to show the instructive findings under these conditions. In one case the admixture of blood in the stomach content after the oil test breakfast was the only sign of the duodenal ulcer.

63. **Acute Addison's Disease.**—The previously healthy young sailor suddenly developed typical Addison's disease, terminating fatally the eighteenth day. First the blood-pressure began to fall, then came intense weakness, then signs of intoxication, and finally the pigmentation. Epinephrin was given in large doses subcutaneously and this tided the patient along, evidently temporarily prolonging life. Both adrenals were found in total cheesy degeneration but the solar ganglion was intact; one accessory adrenal showed considerable hypertrophy.

Münchener medizinische Wochenschrift

April 1, LX, No. 13, pp. 681-736

69 *Serodiagnosis of Pregnancy. (Erfahrungen mit der Abderhaldenschen Schwangerschaftsreaktion—Dialysierverfahren u. Ninhydrinreaktion.) H. Schlimper and J. Hendry. (Die Schwangerschaftsdiagnose mittelst der optischen Methode und des Dialysierverfahrens.) R. Freund and C. Brahm.
70 Dependence of Disturbances in Experimental Diabetes on the Concentration of the Laving Fluid. (Ueber die Abhängigkeit experimentell-diabetischer Störungen von der Kationenmischung.) Weselko and O. Loewi.
71 Arthrodesis of Hip Joint. (Ueber die Arthrodese des Hüftgelenkes.) O. Vulpius.
72 Technic for Roentgenography. (Versuche über die harten Röntgenstrahlen—mit Berücksichtigung der Tiefenbestrahlung.) F. Dessauer.
73 Rubidium in Adelholz Waters. M. Emmerich.
74 The History of Serodiagnosis of Pregnancy. (Zur Geschichte der Serodiagnostik der Schwangerschaft.) R. Freund, E. Abderhalden and P. Lindig.

April 8, No. 14, pp. 737-792

75 *Spirochetes in Central Nervous System in Progressive Paralysis and Tabes. H. Noguchi (New York).
76 Peruvian Verruga. M. Mayer, H. Rocha-Lima and H. Werner.
77 Polariscope Findings in Cataracts. (Ueber doppeltbrechende Myeline in Katarakten.) M. Hoffmann.
78 *Congenital Tuberculosis. (Ueber angeborene Tuberkulose.) F. Harbitz.
79 Roentgenoscopy of the Appendix. (Die röntgenologische Darstellung des Processus vermiformis.) F. M. Groedel.
80 *Mongoloid Idiocy. H. J. W. Kellner.
81 *Cell Inclusions in Scarlet Fever. (Diagnostische Bedeutung der Döhleschen Leukozyteneinschlüsse bei Scharlach.) J. Schwenke.
82 Acromegaly Developing after Hysterectomy at 38. (Fall von Akromegalie nach Kastration bei einer erwachsenen Frau) K. Goldstein.
83 *Pylorospasm and Gastric Ulcer. A. Neudörfer.
84 *Consanguineous Marriages. (Hat die Blutsverwandtschaft der Eheleute einen schädlichen Einfluss auf die Gesundheit der Nachkommen?) F. Kanngiesser.
85 Orthostatic Albuminuria in the Tuberculous. J. Sturm.
86 Serodiagnosis of Pregnancy and Cancer. (Ueber Serumfermentwirkungen bei Schwangeren und Tumorkranken.) E. Abderhalden and R. Freund.

69. **Serodiagnosis of Pregnancy.**—Schlimpert and Hendry applied Abderhalden's biologic test for pregnancy soon after its publication, and here report the findings in 316 cases. At first they obtained contradictory findings, even when instructed by Abderhalden himself in the technic. At last they discovered that the hydrant water used (Freiburg) was the source of the error, and since they have eliminated this, their findings have confirmed Abderhalden's statements in every particular, as they followed his minute directions recently published in the *München. med. Wchnschr.*, 1912, LIX., 1939. Their last series of seventy-nine cases are thus the ones on which they base their conclusions. Not a single failure was encountered in the seventy-nine cases. The reaction is strictly specific and they proclaim it as the greatest progress yet made in the investigation of the metabolic processes which accompany pregnancy. The importance is obvious of a test which will reveal tubal pregnancy, differentiate between myoma and pregnancy, and disclose a pregnancy in its incipiency.

Freund and Brahm report their findings on application of both the optic method and the dialysis method. The findings were sustained by the clinical aspect of the case in 72.4 per cent. of the 134 cases in which the optic method was applied, and in 66.7 per cent. of the ninety-nine cases with the dialysis test. The fresher the serum. the better the chances for accuracy in the test. In the ninety-two cases in which both methods were applied, the findings harmonized in sixty-one instances, including forty-three positive and eighteen negative cases. In thirty-one cases the findings were contradictory. They remark that neither method is able to determine beyond possibility of a doubt the existence of a pregnancy, yet the scientific importance of the principles of the reaction involved is still very great. (For the technic of Abderhalden's reaction see editorial in The Journal, Dec. 7, 1912, p. 2073.)

75. See editorial in The Journal March 29, 1913, p. 1002.

78. **Congenital Tuberculosis.**—Harbitz adds one more to the scanty list of cases of unmistakably congenital tuberculosis. He knows of only 120 such cases on record, and only twenty of them all are free from possibility of the infection having been acquired after birth. In his case the mother had a tuberculous process in the interior of the uterus at the point where the placenta was implanted, so that there was every chance for transmission of the tubercle bacilli directly into the blood of the child. The uterus had probably become infected from

an older tuberculous process in the tubes. The mother died from miliary tuberculosis, twenty-eight days after delivery. The child was removed from contact with the mother at once after birth and fed with milk from another woman. It died the twenty-fifth day after birth and extensive tuberculous changes were found in the lungs and lymph-nodes which had every appearance of having been congenital. He has made a special study of the possibility of congenital tuberculosis, but found no evidence of its occurrence in six infants less than five weeks old born of tuberculous mothers. Inoculation of animals gave constantly negative findings. In examining 484 child cadavers, 1898-1911, he found 59 per cent. free from signs of tuberculosis. Of the 41 per cent. with evidences of the disease, in 10.7 per cent. it had been latent or had entirely healed, and in 5.6 per cent. there had been nothing to indicate the disease, but guinea-pigs inoculated with tissue developed tuberculosis. Of the eighty-two infants less than three months old, there was no trace of tuberculosis in seventy-six: of the fifty-five between 3 and 6 months old, forty-six were free from the disease; of the thirty-six between 6 and 9 months old, only twenty were free from it, and of the twenty-eight between 9 and 12 months, only nineteen. Thus up to the age of 6 months only 11 per cent. of the 137 infants were tuberculous, but the disease was evident in 39 per cent. of the sixty-four from 6 to 12 months old. Infants rapidly succumb to tuberculosis when infection is once installed. He has previously reported a number of instances in which the child died in from one to three months after being exposed to tuberculosis directly after birth. All his data speak in favor of the view that infection before birth is extremely rare.

80. **Mongolcid Idiocy.**—Kellner remarks that more children with this form of degeneracy are being brought to his service than formerly but he does not know whether this is due to increasing numbers or to a greater tendency to place such children in institutional care. The aim of his present article is to call attention to the external signs of mongoloid idiocy so as to enable it to be recognized earlier. although, as he adds, there is no treatment for it which promises any benefit. He has never witnessed any improvement under thyroid treatment or under iodid, even when the condition of the heart permitted the use of the latter.

81. **The Cell Inclusions in Scarlet Fever.**—Döhle called attention last year to the cell inclusions in scarlet fever and others have controlled his statements so that 500 cases have already been reported on. Schwenke has examined a number of scarlet-fever patients for the cell inclusions, fourteen with pneumonia and a number of patients with other affections, including eleven with anemia and five with measles. The inclusions were found constantly in every case of recent febrile scarlet fever, less numerous in the milder cases and declining as the disease progressed. After the seventh day scarcely any were to be found. They are no aid in diagnosis, therefore. after the first few days, and they are not pathognomonic for scarlet fever as they occur with the same constancy and as abundantly in croupous pneumonia in children. They are also found more or less numerous or more or less constantly in various other acute and chronic affections. Positive findings are therefore not very conclusive, but negative findings are very important as a negative result in a child with high fever testifies most decidedly against the possibility of scarlet fever. (See editorial in The Journal, March 8, 1913, p. 750.)

83. **Gastric Ulcer and Spasm of the Pylorus.**—Neudörfer has encountered 120 cases of gastric ulcer requiring operative measures during the last five years. In thirty-nine cases the ulcer was at a distance from the pylorus. In eighteen in this group the stomach was always found empty after six hours. although the ulcer was beyond question and was discovered at the operation. On the other hand he has found cases in which there was retention after six hours and yet the stomach was free from ulceration and nothing else was found to explain the retention. In three cases long continued rebellious stomach disturbances and retention after six hours led him to open the stomach, but nothing pathologic was found and later study of the case showed evidences of spastic constipation. Possibly the tendency to an ulcer may have been cured by the medication with atropin. Ulcers in the lesser curvature induce spasm of the pylorus, even when they are very small, more readily than ulcers elsewhere. He reports in detail an instructive case in which pains in the stomach occurring after eating, radiating to the back and lasting for over an hour. had tormented the patient for three months but there had been no vomiting nor hemorrhage, no splashing sound, no tumor, but nearly all of the bismuth was seen in the stomach after six hours. An exploratory operation revealed a large callous ulcer in the lesser curvature with much perigastritis, the pylorus rigid, the neighboring lymph-nodes enlarged. As there was strong suspicion of cancer and as the ulcer seemed harmless, the pylorus was resected as a hard bunch was found in the rear pylorus wall. The relief from pain was immediate. Nothing was found in the resected portion to suggest cancer and the patient recovered his health completely. On reexamination, five months later, the callous ulcer was found entirely healed. The relief of the spasm of the pylorus had evidently put an end to the condition inducing the ulceration so that this large ulcer spontaneously retrogressed. The case also throws light on the mode of action of gastro-enterostomy with ulcer. It has previously been assumed that the modified chemistry led to the healing, but this case shows that putting an end to the spasm of the pylorus was sufficient alone. His experience has been that resection of the pylorus according to Kocher is neither more difficult nor a longer operation than gastro-enterostomy. He has had no fatality in fifteen and Kocher none in seventeen cases.

84. **Consanguineous Marriages.** — Kanngiesser has been investigating conditions in regard to the offspring in large numbers of marriages between blood relations, comparing them with equal numbers of marriages between persons without ties of kinship. He tabulates the findings which show that mental weakness was found in 4 per cent., impaired vision in 0.5 per cent. and deafmutism in 0.01 per cent. of the offspring of persons where there was no blood relationship between the parents. In the consanguineous marriages the proportions were respectively 9.4 per cent. mentally weak; 3.1 per cent. with impaired vision or blind and 1.9 per cent. deaf mutes.

Petersburger medizinische Zeitschrift

March 28, XXXVIII, No. 6, pp. 67-78

87 History of Serous Meningitis. T. Schwartz.
88 Chronic Bronchitis and Emphysema. V. Zöpffel.

Therapeutische Monatshefte, Berlin

April, XXVII, No. 4, pp. 257-336

89 *Psychotherapy. H. Vogt.
90 Serotherapy of Erysipelas. Welz.
91 The Ear Complications in Scarlet Fever. (Therapie des Scharlachs.) W. Uffenorde.
92 Inadvisability of Permitting Mushrooms in Nephritis. A. Kakowski.

89. **Psychotherapy.**—Vogt discusses this from a general standpoint and then from the relations between the physical and the psychic and the nature of and treatment of psychoneurotic disturbances in general.

He reviews the methods in vogue and their aims, devoting much space to Freud's psychanalysis. This consists essentially of two features, he repeats, "psychocatharsis and sexual analysis." The latter feature, he remarks, has become so morbidly hypertrophied that it has thrown discredit on the whole system, although many still regard Freud as the Copernicus of psychiatry. Binswanger says, "Freud kneels on the conscience of his patient." It is beyond question, however, Vogt continues, that psychic trauma may occur as the result of fright, worry, a sense of shame and distress. He dwells in particular on the importance of psychotherapy in the training of children inclined to be extra nervous, especially the children of parents with a tendency to degeneracy. Calmness and firmness are necessary in their training, and the first days of life are none too early to commence the psychotherapy. The child should be trained to bear pain and should never be kept away from the sports and games of children of his own age. The "hard school of the street" is particularly needed for such children, as also training in simplicity, self-control and self-confidence, truth and an innate or cultivated abhorrence of the unbeautiful and the vulgar, and avoidance of luxury. Everything should be done to cultivate a healthy cheerful outlook on life and to divert the child's attention from books and theories to practical things, while cultivating a habit of observation and enjoyment of the every-day things of life. In all these things, he emphasizes, the physician can be of infinite guidance and help. It often happens that he will have to counsel the parents and educators, for the first and greatest need is naturally a sound and true example. Parents who cannot control themselves, of course cannot train their children in self-control. [The term "psychocatharsis" applied to Freud's method of psychanalysis is from the Greek *katharos*, "pure," meaning a cleansing process for the soul and mind. "Catharsis" is too good a word to be kept for the intestines alone.]

Therapie der Gegenwart, Berlin

April, LIV, No. 4, pp. 145-192

93 *Tonsillectomy. R. Schreiber.
94 Pancreas Disease. (Die Erkrankungen des Pankreas und ihre Behandlung.) P. Cohnheim.
95 Rabies. (Die Tollwut—Lyssa.) P. A. Hoefer.

93. **Tonsillectomy.**—Schreiber gives an illustrated description of R. Klapp's instrument with which the tonsil is removed with such ease that he declares that the little operation can be done by any general practitioner at his office. In the sixty cases in which it has been used there has never been any after-hemorrhage. The instrument is a modified Luer gouge-forceps. The deep spoons take up the tonsil without crushing it; the only cutting surface is where the blades sever the root of the tonsil. The forceps is held with the open blades above and below the tonsil. It is then pressed against the side wall of the throat, on which the entire tonsil glides into the cup formed by the upper and lower spoons. He gives an illustration of seventeen tonsils thus removed, calling attention to the absence of any crushing or loss of substance; they show merely at the rear the small cut surface. He thinks the pathogenic importance of the tonsil renders it necessary for a technic which can be applied in any physician's office, and which the public will thus learn not to dread. The communication issues from Bier's clinic at Berlin.

Wiener klinische Wochenschrift, Vienna

April 3, XXVI, No. 14, pp. 521-560

96 *Predisposition of the Central Nervous System to Disease. (Pathologische Veranlagung am Zentralnervensystem.) H. Obersteiner.
97 Serodiagnosis of Cancer. (Zur Serodiagnostik der malignen Geschwülste.) F. Schenk.
98 The Biologic Action of Radium. L. Arzt and W. Kerl.
99 Experimental Research on Idiosyncrasies. A. Glück.
100 The Oxydase Reaction. (Die klinische Bedeutung der Winkler-Schulze-Oxydase-Reaktion.) J. Hatiegan.
101 Technic for Treatment with Emanations. (Vorrichtung zur portionenweisen Entnahme emanationshaltiger Flüssigkeiten und Gase.) F. Dautwitz.
102 Roentgenoscopy of Colon Functioning. (Ueber direkte Irrigo-Radioskopie des Kolons.) G. F. Haenisch.

96. **Predisposition of Central Nervous System to Disease.**—Obersteiner comments on a number of affections of the central nervous system which can be explained only by assuming some defect in the development of the parts involved. This organic Anlage can sometimes be determined by clinical tests, but usually it can only be surmised. In the pathogenesis of all nervous diseases there is in all probability, therefore, an endogenous as well as an exogenous factor to be taken into account and the importance of the former must not be overlooked.

Zentralblatt für Chirurgie, Leipsic

April 5, XL, No. 14, pp. 505-544

103 Improved Technic for Extraction of Bullet, etc., under Roentgenoscopy. (Zur Vereinfachung der Fremdkörperextraktion.) A. Schlesinger.
104 Subserous Appendicectomy. N. Kaefer.
105 *Diagnosis and Treatment of Gangrene of the Foot. L. Moszkowicz and R. Frank.

April 12, No. 15, pp. 545-592

106 Restoration of Esophagus. (Ueber plastischen Ersatz der Speiseröhre.) F. v. Fink.
107 To Reenforce the Suture After Operation for Renal Calculi. (Zur Nahtsicherung bei der Pyelolithotomie.) E. Payr.
108 Operative Treatment of Flat-Foot with much Deformity. (Ueber modellierende Osteotomie bei Plattfüssen mit schwerer Knochendeformität.) Perthes.

105. **Diagnosis and Treatment of Gangrene of the Foot.**—Moszkowicz states that it is not necessary to apply a constricting band in diagnosing insufficiency of the arteries of the leg. It is generally possible to learn the true condition by merely raising the leg for a minute or two, when in case of obstruction of the artery it becomes of a corpse-like pallor. Merely raising the leg will not induce complete anemia in this way when the arteries are normal. As the leg is lowered it gradually grows pink again but much more slowly than with normal arteries. Even if the leg is allowed to hang down, one or more of the toes may still look pale after some time. By repeatedly letting the leg hang down and then placing it horizontal, we fill and empty the vessels, thus exercising them as Borchardt accomplishes with his alternating hot and cold baths. The alternating hyperemia and anemia answers the purpose of gymnastics of the vessels and relieves the pain. It is possible that Wieting's arteriovenous anastomosis owes any good results it may have to the stasis induced by ligation of the vein rather than to any actual diversion of the blood-stream. However the hyperemia may be obtained, it can always serve as an index of the functional capacity of the arteries. He warns in conclusion that tissues with insufficient blood-supply are more susceptible to injury than normal tissue; he knows of a case in which the application of superheated air for incipient gangrene of the foot caused a severe burn on the foot.

Frank reports a case in which the alternating baths of hot and cold water for three minutes each, three times in succession, kept up daily for six weeks were able to save the feet of a soldier after they had been frozen and gangrene was apparently installed. One foot is now entirely sound and the other required merely exarticulation of one toe and part of the sole; all the rest recuperated. Without the alternating baths the feet would certainly both have had to be amputated. (See abstr. 148 in The Journal, April 5, p. 1117.)

Zentralblatt für Gynäkologie, Leipsic

April 5, XXXVII, No. 14, pp. 481-528

109 *Non-Toxicity of Puerperal Urine. (Ueber die Toxizität des menschlichen Harnes im puerperalen Zustand und bei Eklampsie.) A. Zinsser.
110 Action of Roentgen Rays on Fetal Membranes. (Einwirkung der Röntgenstrahlen auf die Eihäute.) M. Kawasoye.
111 Hematoma in Abdominal Wall Developing during Labor. (Ein unter der Geburt entstandenes Bauchdeckenhämatom.) E. Vogt.
112 *Danger of Scopolamin in General Anesthesia. (Zur Skopolaminfrage.) H. Sieber.

April 12, No. 15, pp. 529-560

113 *Pregnancy Carried to Term Five Years After Piccoli Operation for Puerperal Inversion of the Uterus. F. v. Neugebauer.
114 Intraperitoneal Hemorrhage during Delivery from Rupture of Uterus Vein. E. Langes.

109. **Non-toxicity of Puerperal Urine.**—Zinsser was unable to detect any special toxic action in extensive experimental research with urine from normal pregnant women and in nine cases of eclampsia.

112. **Unreliability of Scopolamin.**—Sieber has always protested against the assumption that scopolamin is a harmless addition to the mixed-anesthesia methods. He calls attention to recent publications from the Tübingen clinic which show that the clinic from its former ardent advocacy of the method has now changed to denounce it as unreliable.

113. **Childbirth after Operative Reduction of Inversion of the Uterus.**—Neugebauer adds another to the ten cases he has found on record in which women passed through a normal pregnancy after the inverted uterus had been replaced. The Piccoli method for this aims to correct the stasis edema of the body of the uterus and the relative narrowness of the cervical canal by incising the fundus from the rear. In this case

the placenta was of the bilobar type and he thinks that the implantation on the scar tissue was responsible for this anomaly. He urges study of conditions in regard to the implantation of the placenta on the old cicatrix in every case of repeated cesarean section or similar operation. He cites Mansfeld's recent communication of a fatality following expression of a large clot from the uterus two hours after spontaneous delivery. The uterus became inverted after the maneuver and although it was easily reduced yet the young woman died eight and a half hours after spontaneous delivery. The necropsy revealed extreme hypoplasia of the adrenals and lymphatic system. In both adrenals together there was only one-quarter of the normal content of epinephrin. He thinks this case is very important as it shows that the atony of the uterus in such cases is probably the result of the abnormally low proportion of epinephrin in the blood. We know that epinephrin has a special action on the tonus of the uterus, and when there is atony of the organ, not to be explained by degeneration of the muscle, the trouble is due to abnormally low tonicity of the sympathetic system. Uterine hemorrhages independent of changes in the uterus and ovaries and rebellious to all measures are generally encountered only in young lymphatic girls or women of the thymicolymphatic status. The practical conclusion follows that uterine hemorrhage in these cases should be combated with epinephrin.

Zentralblatt für innere Medizin, Leipsic

April 12, XXXIV, No. 15, pp. 369-392

115 Cell Inclusions in Scarlet Fever. Diagnostic Importance of Negative Findings. (Zur Frage nach der Bedeutung der Doehle'schen Leukocyteneinschlüsse beom Scharlach.) A. Lippmann and A. Hufschmidt. See abstr. 81 above.

Gazzetta degli Ospedali e delle Cliniche, Milan

March 30, XXXIV, No. 38, pp. 393-408

116 Diuretic Action of Hypophysis Extracts. L. Lucatello.

April 1, No. 39, pp. 409-414

117 Dislocation of the Carpus. R. Mosti.

April 6. No. 41, pp. 423-438

118 *Influence of Food on the Incubation of Rabies. (Influenza della alimentazione su la incubazione della rabbia.) M. Marcialis.

April 8, No. 42, pp. 439-446

119 Mumps and Sterility. (Orecchioni e sterilita nell'uomo.) G. Giovanni.

April 10, No. 43, pp. 447-454

120 *Helminths from Surgical Standpoint. (Importanza patogenetica dell' elmintiasi da ascaridi specialmente in rapporto ad affezioni chirurgiche.) R. Cinaglia.

118. The Food and the Incubation of Rabies.—Marcialis reports attempts to determine whether feeding or inanition had an influence on the development of rabies in dogs after infection. No influence was apparent when the rabies had been inoculated directly into the nervous system or had already reached the nerve centers. But when the virus was inoculated at remote points, it reached the nerve centers the more rapidly the better fed the animals. That is, the more active the metabolism the earlier the virus is conveyed to the nerve centers.

120. Helminthiasis and Surgical Affections.—Cinaglia comments on the prevalence of helminths in children. In Italy some have reported 60, 96 and 39 per cent. affected with ascarides among large numbers of children examined. Pagliari found ascarides in 90 per cent. of the country children but only in 10 per cent. of the children living at Rome. Cinaglia recently operated in a case of supposed appendicitic ileus which proved to be obstruction of the small intestine by ascarides, and he discusses the ways in which helminths enhance the dangers of abdominal operations in general.

Policlinico, Rome

April 6, XX, No. 14, pp. 474-508

121 Myoma Plus Tuberculosis of Female Genitals. (Adenomioma dell' utero e tuberculosi utero-annessiale complicata.) P. Costantini.

Riforma Medica, Naples

April 5, XXIX, No. 14, pp. 366-392

122 Traumatic Hemiplegia. (Sull'attuale indirizzo della traumatologia e della ortopedia.) R. Dallavedova.

Brazil-Medico, Rio de Janeiro

March 1, XXVII, No. 9, pp. 81-90

123 Simultaneous Disease of Thyroid, Testicles and Hypophysis. (A syndroma thyreo-testiculo-hypophysaria.) A. de Castro.

March 8, No. 10, pp. 91-100

124 Palm Buds as Food. (Pesquiza bromatologica sobre o palmito.) A. Carini and C. Chaves.

March 15, No. 11, pp. 101-110

125 *The Urochromogen Urine Test. (A reacção do urochromogeno de Moriz Weisz.) U. Paranhos and V. Giolito.

126 Primary Congestion of the Lungs. (Congestões primitivas do pulmão.) C. Fraga. Commenced in No. 8.

127 Tuberculosis of the Bladder. B. P. Leme.

125. The Urochromogen Reaction in Urine.—Paranhos and Giolito applied the Weiss potassium permanganate test to the urine from fifty healthy persons, obtaining constantly negative results. In fifty tuberculous patients the test was positive in all but five cases; in three of the latter the disease was very far advanced. The test was thus positive in 90 per cent. of the tuberculous cases, but it did not seem to be dependent on the severity of the disease. They also applied it in fifty other cases in various diseases, including nine with syphilis (*positive in six*), and eleven with nephritis (*positive in one*); a positive reaction was obtained in twenty-four of these fifty nontuberculous cases. (For the technic, see abstract 112 in The Journal, Sept. 21, 1912, p. 976.)

Hospitalstidende, Copenhagen

March 26, LVI, No. 13, pp. 329-360

128 Successful Resection of Cystic Kidney. (Et tilfælde af opereret Nyrecyste.) F Thorborg.

April 9, No. 15, pp: 385-416

129 Technic for Gall-Stone Incision. (Om Bugvægssnittet ved Operationer paa Galdevejene.) N P. Ernst.

130 Suppurating Chondritis Following an Operation for Encapsulated, Perforated Gastric Ulcer. S. and J. Nordentoft. Commenced in No. 14.

131 *Gall-Stone Ileus. P. Møller. Commenced in No. 12.

131. Obstruction of Intestines by Gall-Stones.—Møller analyzes the twenty-two cases of gall-stone ileus in which he has operated and comments on the peculiar mingling of symptoms from the cholelithiasis and from the obstruction of the bowel by the *concrement*; the *phenomena* are of both an acute and a chronic character. There had been no previous symptoms of cholelithiasis in quite a number of the cases. Typical colics had occurred in six cases and vague suspicious symptoms in five others—thus only in 50 per cent. of the total. In three cases and in one reported by Lund, the ileus was the first sign of trouble. In a few cases blood in vomit or stools with vague symptoms in the stomach region were ascribed to ulcer or cancer but in reality they were the signs of a fistula developing between a bile duct and the bowel. The ileus developed in one case immediately after a sudden physical strain and in another after a course of oil. It is characteristic of gall-stone ileus that the general condition seems to suffer comparatively little although the bowel may be totally obstructed for three or four weeks.

As a rule the pulse keeps strong and regular although in exceptional cases the ileus may prove rapidly fatal. The vomit may contain little or no bile but there may be blood from the fistula edges. When the stone is in the duodenum below the papilla or in the upper part of the jejunum, the vomit may contain large amounts of bile. There is little tenderness on pressure; tenderness in the biliary passages region may occasionally be noted but scarcely more with localized peritonitis than without. In only four cases could the stone be felt through the abdominal wall. There was no jaundice in his cases and no fever until peritonitis developed, and not always then. The patients generally die or recover in from six to ten days, the stone breaking loose and passing on and out. In one case in the literature the stone thus was expelled after eleven weeks.

Even when the abdomen is opened, the diagnosis is difficult; in a number of instances the conditions first found were assumed to be sufficient to explain the ileus and no further search for a gall-stone was made, and it thus escaped detection. In only three cases was the ileus traced to its true cause before the operation. Only four of the twenty-two patients survived; the mortality was thus 82 per cent., but infections one invasion predisposes to others, must be abandoned. Clinically, acquired predisposition may be simulated when an organ is injured and its physiologic working impaired by the former attack, so that these injuries overbalance the normal resistance plus any acquired specific immunity. This changed attitude of the body following invasion has been denominated allergy by von Pirquet. The nature of the allergic attitude probably depends on a combination of factors which are not precisely the same for any two diseases.

The reserve forces which the body mobilizes and uses in establishing this higher level of resistance during an attack of an infectious disease, have been made the subject in recent years of most intensive laboratory study and analysis. As a result, a new field of work, immunology, has been mapped out as worthy of independent cultivation. It has resolved acquired immunity into a number of component substances and activities. They are familiar to us under the names of antitoxins, agglutinins, precipitins, opsonins, tropins, complement-fixing bodies and phagocytosis.

This analysis, though of the greatest value to diagnosis, has not yet been followed by a synthesis which is to explain to us the relative importance of these various antibodies, and to range them in proper order into a complete whole. No simple infectious disease has been completely analyzed and its underlying machinery laid bare. Whether such an analysis is even attainable, considering the minuteness of the parasitic invaders and the host cells and the complex processes going on between them, must remain questionable. To estimate the degree of immunity attained through disease, we cannot rely lely on any quantitative determination of any one or re immune bodies which have appeared, since we do ot know their relative importance. We must judge the efficiency of the immunity by determining to what degree the individual as a whole is being protected.

METHODS OF CONFERRING IMMUNITY

Taking it for granted, then, that it is possible to raise the level of resistance toward an infectious disease artificially, no matter what kind of micro-organism is the specific agent, let us glance for a moment at the methods which have been used for this purpose. Beginning with the fundamental work of Pasteur we find him committed to the method of using the actual living virus of a disease as a vaccine, but modified as much as possible so as to produce the least harm compatible with an effective immunity. Pasteur used physical agents as well as passages through series of animals of an experimentally selected species. This method of using a living virus has maintained itself in the practice of immunizing domestic animals against various plagues; but in the immunization of the human subject, viruses exposed to the lowest temperatures that will destroy life have been used almost or quite exclusively. In experiment and practice, the living viruses have proved themselves superior to heated ones in calling forth immunity. But there is an element of danger associated with them which may assert itself at any moment. The living vacci e may prove too virulent and cause actual diseas cinated may become carriers and dangero their own kind, to other species. The mic of these carriers may egain their former vi

Illustrations of these possibilities may be animal vaccinations, an probably every one dealt with them can cite ses. In a series of hundred calves inoculated w h the weakest huma cle-culture on hand, one ract tuberculosis eyes. This accident is of no moment among calves, but it might cause great commotion if occurring in a human subject. Cattle vaccinated with human tubercle bacilli may excrete the bacilli for months in the milk. Griffiths[2] has reported the case of a cow vaccinated as a young calf, shedding such bacilli in the milk. The recrudescence of virulence depends on the nature of the virus and the degree of change induced artificially. Among tubercle bacilli, changes go on very slowly. A bovine type with which a calf had been infected showed on glycerin agar, when recovered from the calf about eighteen months later, the same ease of growth which it possessed before inoculation. There was no indication of a return to the parasitic habit, in which condition it fails to multiply on the medium referred to. Few species of bacteria, however, possess the inertia of this bacillus. In a body already infected with some other virus, living vaccines may cooperate with this virus and become pathogenic for that individual.

Among the reasons urged why living attenuated viruses should be so much superior to dead viruses, none has yet proved adequate to explain satisfactorily the difference in effectiveness. With some bacteria, heat-labile substances may have important antigenic properties. There may be important immunizing substances produced only by bacteria in the presence of the antiforeign activities of the host tissues. Some years ago I called attention to the continuity of action exerted by living micro-organisms as contrasted with the discontinuous action of dead cultures. Living cultures, even when multiplying but feebly, produce an infinite number of minute blows as compared with the single blow of dead cultures followed by speedy elimination. Living microbes may penetrate into different territories where antibodies are most easily produced; dead microbes often remain where deposited. Barring accidents, the use of living virus is the most certain and most economical way of calling forth a maximum output of antibodies.

The use of so-called sensitized viruses is one which should receive more attention. I may recall here the influence of diphtheria toxin mixed with antitoxin on the production of active immunity.[3] A mixture of toxin and antitoxin which still produces a large local lesion in the guinea-pig induces a high degree of active immunity. Following the gradual addition of more antitoxin, the active immunity sinks, but it is still quite marked when neutral mixtures are used. If we continue to add immune serum the active immunity goes on sinking and reaches zero when a considerable surplus of antitoxin has been added to the toxin. Why does a single injection of a neutral mixture surpass in effectiveness many doses of pure toxin? I have answered this question as follows: The toxin mixed with the antitoxin penetrates quite generally through the body, whereas the pure toxin is chiefly held at or near the place of injection. This diffusion tends to cause maximum antibody formation, over a wide territory, by a relatively very small amount of free or perhaps dissociable toxin in the toxin-antitoxin mi The proof that the toxin is diffused under th ance of the antitoxin is suggested by the fact that is almost never induced by the injection of subcutaneously, but it frequently occurs wh n is injected into the circulation. ie toxin- xtu quently produces paraly- taneously. The bearing to think that a similar phenomenon of diffusion may occur. Some years ago Sobernheim[4] applied this method for anthrax vaccination in domestic animals by mixing anthrax cultures of a certain degree of attenuation with an anthrax-immune serum. More recently Metchnikoff[5] and Besredka have applied it in immunization against typhoid fever. This method, it should be stated, has failed with such filterable viruses as those of foot-and-mouth disease, rinderpest and hog cholera. The mixture either produces an unmitigated attack or else neither disease nor immunity.

The advantages of living over heated vaccines must, however, diminish with the attenuation of the living virus. There must be some point in this attenuation when multiplication in the tissues of the host is no longer possible. In such a case the virus can be of no more use than killed virus, unless some very labile substance in the virus, already referred to, which is easily destroyed by heat, acts as an important antigen. The question of the superiority of heated over living virus, or the reverse, resolves itself into finding that stage of attenuation in the latter which is still superior to the former as a vaccine, and is yet relatively harmless. The future exigencies of the race may be such that the possible dangers inherent in living vaccines will have to be ignored by those who seek a stable protection.

The search for effective vaccines has not halted with heated bacteria, but has gone on toward certain products of mechanical and chemical disintegration. These attempts have all been more or less empirically conceived. Beginning with Koch's old tuberculin, which is a spontaneous secretion or disintegration product of the tubercle bacillus, we have had a variety of other products of this bacillus including the lipoid substances and the miscellaneous substances contained in filtrates from fluid cultures used as vaccines. Bacteria have been subjected to various mechanical processes such as grinding and prolonged shaking, resulting in Koch's tuberculin T. R., MacFadyean's typhoid endotoxin, and von Wassermann's shake extracts. When we attempt to discover any underlying guiding principles prompting these special methods of disintegration, we find few propounded. Koch ground his tubercle bacilli and extracted them in order to get them into solution for prompt absorption, and this idea may have governed others.

RELATION OF IMMUNIZING AND TOXIC ELEMENTS OF VACCINES

From time to time there have been advocates of the hypothesis that the immunizing and the toxic principles of micro-organisms are distinct, and that if they could be successfully isolated, the use of the immunizing substance alone as a vaccine might not only evade the injury accompanying the use of entire organisms, but even improve on living vaccines. Such a view, though perhaps not expressed, may be read between the lines of the publications dealing with actual experimental work in this direction. It may not be out of place here to present some theoretical considerations bearing on the question of the identity or non-identity of toxic and immunizing substances of micro-organisms.

All parasites in their attempt to make use of the living body as a source of food and a nidus for multiplication must be prepared to meet the general antiforeign forces of the host's tissues. The body is so constituted as to assimilate or attempt to assimilate all foreign substances. The usual enteral route makes ample provision for this in the normal processes of digestion. The parenteral route, however, is not so well adapted to make over foreign substances entering its tissues. Abderhalden and others[6] have shown that even in this respect the body is remarkably well adapted to assimilate proteins, carbohydrates and fats by rapidly producing or mobilizing ferments after the first injection which take care of these substances. Abderhalden distinguishes substances as cell-foreign, blood-foreign and body-foreign. Substances out of place may do harm unless promptly assimilated to their environment. All invading parasites must meet these antiforeign agencies by protecting themselves with various devices, among which I should range a special modification or adaptation of the cell membrane of the parasite, including the formation of capsules. There may also be secretions of the bacteria which successfully paralyze the antiforeign forces (aggressins of Bail). These various protective devices may be called defensive in contradistinction to those which, like the soluble toxins, are offensive in so far as they directly attack and injure living tissues. The normal antiforeign forces of the body, though manifestly defensive against invasion, are also offensive in that they tend to disintegrate and assimilate as already stated. The antibodies formed during the course of an infectious disease are more properly styled defensive, since they appear only under severe provocation.

It will be noted that, as in war, I distinguish between offensive and defensive operations, the defensive of one side fitting into or being adapted to the offensive of the other. There may exist only offensive or only defensive functions, or a mixture of the two, according to the parasite. Thus the diphtheria bacillus is chiefly offensive. By injuring the mucosa with its toxin, it obtains at once a rich food-supply and a shelter in the inflamed and necrotic membrane, where it multiplies at a rapid rate. The tubercle bacillus, on the other hand, may act with the aid of a preponderance of defensive mechanisms. To explain why only a small number of species of bacteria have become parasites, we must assume that they were endowed at the start, while free-living, with structural or functional peculiarities enabling them at once to take the offensive or the defensive. The anthrax bacillus, for instance, is a free-living species, very much like a number of similarly free-living but harmless species. Through some peculiar endowment it can multiply in the blood of many hosts. Some refer this power to the capacity of producing protective capsules in the body.

After the parasites have fastened themselves on their host, adaptive processes continue to mold and augment the necessary defensive functions, and the special capacity for such adaptation and its final result determine the character of the parasitism and the accompanying specific infectious disease. During this period of adaptation many parasites probably lose their original offensive weapons in whole or in part, and exaggerate their defensive ones, for very few of the truly invasive bacteria produce early soluble toxins like those of the diphtheria bacillus, which has remained a surface parasite. The so-called endotoxins of R. Pfeiffer, which belong to the bodies of the bacteria, play only a secondary, belated part in the established parasitism. They cannot be regarded as enabling a bacterium to establish itself in the tissues of the host, and they become active only with the dissolution of the bacterium.

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[4] Sobernheim: Berl. klin. Wchnschr., 1902, p. 516.

[5] Metchnikoff: Ann. de l'Inst., Pasteur, xxv, 193.

[6] Abderhalden: Die Schutzfermente des tierischen Organismus, 1912.

In what we call natural immunity, normal antiforeign functions are sufficient to destroy and assimilate the bacteria, for naturally immune animals do not carry an appreciable quantity of immune antibodies. In acquired immunity it is probable that the latter predominate. Animals may also be naturally immune because bacteria cannot find in them a suitable medium for multiplication.

In the attempt to immunize artificially with vaccines, it becomes necessary to determine what enables bacteria to establish and maintain themselves in the tissues. If it is through toxin production as in diphtheria, the vaccines must contain the toxin rather than the bodies of the bacilli. If it is through the building up of a resistant membrane or of capsules it is obvious that we must have them in our vaccines to stimulate properly directed immune reactions. It is highly probable that we might dispense with most of the body substance of the bacteria since this comes into play only secondarily, and later in the course of the infection, and yet may be sufficiently injurious in vaccines to interfere with the immunization in part or wholly.

There is another type of parasite which may dispense largely with both offensive and defensive processes. We can conceive of this type as exerting a metabolic activity approximating so closely to that of the host that the latter reacts but slightly, and then only after a long period of stimulation. This type of parasite would have very little that is body-foreign or blood-foreign.[7] In this latter class I would place such organisms as the spirochete of syphilis. If the exquisite, prolonged parasitism of this micro-organism, the relatively slight lesions and their curability, be borne in mind, it will be understood why I place it in this category.

Medical science has shown that it is relatively easy to immunize against the soluble toxins of diphtheria, tetanus and botulism, but that it grows more and more difficult as the defensive elements increase and the toxic elements tend to disappear. To immunize against parasites whose metabolism produces little reaction on the part of the host should be most difficult of all.

When we glance over the literature dealing with fundamental problems of immunity, we soon come to notice that our theories have been built up somewhat narrowly on studies of special diseases. The behavior of the cholera spirillum and, to some extent, of the typhoid bacillus in the guinea-pig, has been drawn on by R. Pfeiffer and his pupils very largely in constructing his theories. It is admirable work, but it can scarcely tell us much about immunity in pneumonia or tuberculosis. The structure and functions of these organisms are so different from that of the cholera spirillum, and their behavior in the body so divergent, that each must be studied by itself. This has been done on a large scale in recent years, and the place of the opsonins and tropins with reference to phagocytosis placed in proper relief.

Bessau[8] has recently presented again the views of Pfeiffer and his school with reference to immunity against the typhoid bacillus. He also takes up the question of the immunizing and the toxic characters of vaccines, and comes to the conclusion that a successful vaccine cannot eliminate toxic effects. He compared several methods of preparing vaccines. An intensive extraction in salt solution at 58 C (136.4 F.) yielded a vaccine ten times as strong in immunizing power as the extract prepared by using Brieger's method of shaking the culture. The residue of the salt solution extract was practically devoid of immunizing substances. These results would indicate that toxic and immunizing substances in the typhoid bacillus cannot be wholly separated. The last word has not yet been said, however, for we do not know enough about the means of separating the constituents of the bacterial cells and we cannot quite accept in its entirety the result of experiments on an animal practically immune to the invasion of the typhoid bacillus.

In presenting in this very hurried way a hypothesis of the reciprocal relation between pathogenic micro-organisms and their specific host, I simply wished to emphasize the importance of studying every infectious disease by itself, and not accepting any one theory in regard to the toxic and immunizing properties of bacteria, since they exist in a different ratio in every specific disease germ, and their relation to the process of immunization may not be the same for any two infections. Before medical science shall have solved the problem of vaccination by the use of purely immunizing substances, provided the theory on which their existence is based be true and the technical difficulties not too great, we shall have to content ourselves with the bacteria themselves. Some added difficulties in their use need still to be discussed.

DIFFICULTIES ATTENDING THE USE OF VACCINES

Cultures of bacteria to be used as living vaccines must of necessity be so reduced in virulence as to induce a type of disease which is only a feeble reflection of its original. The ideal would be a culture so modified as to multiply without causing temporary or permanent injury. When vaccines from dead bacteria are to be used, the latter should have been endowed, before they are killed, with all the potencies with which they maintain themselves in the body. These potencies do not remain unchanged during artificial cultivation. The deterioration they undergo is more conspicuous with some bacteria than with others. The tubercle bacilli, notably of the bovine type, may become very materially altered when they are cultivated, so as to produce a large crop convenient for commercial purposes. The capsule bacteria lose their capsules promptly. All cultures which can be accurately tested—and this is possible only with those from animal diseases—undergo a decided loss in virulence. Some pass through a sudden transformation in the first culture. Our ordinary culture mediums carry on a more or less selective activity, weeding out those which fail to multiply promptly. All these changes are evidently significant, but our unstandardized methods and the impossibility of testing the viruses on the original host, in the case of man, prevent us from gaging this significance accurately. In the absence of more definite knowledge, our theory demands that our vaccines be composed of bacteria as little changed as possible. Yet in preparing vaccines on a large scale, this demand cannot be fulfilled. Only in the use of autogenous vaccines is this condition fairly well met. Some writers go so far as to assert that highly attenuated typhoid bacilli make the most efficient vaccine.

There is yet another difficulty encountered in preparing vaccines on a large scale, which is due to the existence of variants among cultures of the same species. The variations found are chiefly serologic in character. Their agglutinins, for instance, may be different. The immune serums produced by the injection of one strain may not protect against another strain, as shown by Neufeld for the pneumococcus. It is possible that in the future inclusive strains may be found to overcome this very real obstacle.

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[7] It would then approach in character, such cells as the polymorphonuclear leukocytes, which go to any part of the body. Yet even they possess injurious properties, for if they collect in large numbers as pus, Opie has shown that their specific ferment, leukoprotease, will liquefy tissues, because unrestrained by an antibody contained in the blood plasma.

[8] Bessau: Berl. klin. Wchnschr., 1912, p. 2210.

The foregoing conditions refer to the parasite. There are a number of conditions affecting the host which influence the success and stability of vaccinal immunity. These must not be lost sight of, if the best devised vaccination is not to be condemned.

From many experiments on animals we know that immunity is relative and not absolute in its protection. In testing the degree of resistance acquired, we find that a large dose of virus may break down an immunity which will resist a smaller dose. A more virulent strain of the same microbe may easily overcome a resistance successful toward weaker strains. The mode of inoculating the test virus is of great importance. Immunity toward a subcutaneous dose may fail completely to protect against a much smaller intraperitoneal dose. Römer, and following him Tomarkin, were able to show a sustained resistance of moderately tuberculous guinea-pigs, toward a fresh cutaneous inoculation. A similar immunity toward a subcutaneous dose, so far as I know, has not yet been demonstrated.

It is evident that human beings, supposedly protected by vaccination, may at any time encounter highly virulent races, or take in unusually large doses of ordinary virulence. The portal of entry may also be different and less secured than the usual route. Such accidents tend to bring discredit on vaccination, and they show that we cannot dispense with the usual preventive measures even in a thoroughly vaccinated community.

It is now well known that vaccination protects only for a limited period. The body forced to produce a variety of antibodies under pressure is not likely to continue such manufacture indefinitely after the stimulus is removed. Nature is not lavish in producing unused commodities. Animals naturally immune do not carry an appreciable quantity of immune bodies about. Their protection is guaranteed by more economical processes of life of which we know as yet very little. The length of time elapsing between vaccination and exposure, therefore, is of great significance in the success or failure of protection.

There is still another series of factors which may be called environmental which play a prominent part in immunity. Thus, seasons govern the incidence of many infections. Pneumonia and its allies are largely subject to seasonal influences. Restricted and special kinds of food, which are gradually being exposed as a cause of many constitutional diseases may greatly favor, through these diseases, the lodging and multiplication of infection. The strain due to bodily exertion and exposure to cold may start infection already present somewhere in the system. These and other environmental influences become so important in endemic diseases that they take first rank, the micro-organism falling to second. The normal immunity of the body is so high that the mere presence of the infecting organism is not enough. The immunity must first be broken down by exposure, exertion, hunger, fatigue and so on. What can we expect of vaccines against such diseases? Can they counteract the depressing influences of environment? These questions are still to be answered. If pneumonia is amenable to preventive vaccination, why is this not accomplished by the virus in the upper air-passages, where it vegetates in the majority of persons?

In addition to these many variables of host and parasite which may influence either the success of the immunizing process as such, or the conditions under which it is most efficiently put to the test, there is the principle of active immunization itself which must be carefully kept before us. When we discuss vaccination as a preventive, we mostly fail to take into account that we are asking something of the individual to be vaccinated, rather than giving him something. We are asking his tissues to go through the preliminary process of training to meet some future emergency. Vaccination is a process of education, for being better prepared to meet an invasion at once, before it has grown to any dimensions. We have no reason to suppose that the characteristics of the body will be materially and permanently altered by such a training. If the body is below par in the supplying of immune bodies, it is likely to remain so, despite the vaccination. Of two individuals treated preventively alike, one may be able to cope successfully with a larger or more virulent dose than the other. The plane of immunity of both is raised by vaccination, but unequally so, and in proportion to their natural endowments. Experimentally, we find this difference among all our animals. It is strikingly illustrated by the widely different capacities of horses under the same treatment for the production of antitoxins.

TIME RELATIONS OF VACCINATION AND DISEASE

Having now discussed some of the facts and theories pertaining to artificial immunization and some of the practical difficulties, I have still to consider the time relations of vaccination to the disease process. Vaccination before infection or preventive vaccination is the simplest and oldest application. It is now used quite universally as a general prophylactic against small-pox. Vaccination against typhoid is gaining ground. Vaccination against other infections such as diphtheria may come if other means of prevention fail to control the infection properly. Of small-pox vaccination little need be said. Although the public is growing somewhat restive under compulsory vaccination the method in use still stands unique, and if properly administered and duly supported by the public its benefits cannot fail to be great. If hampered, however, by legislative restrictions and by public indifference, it cannot assert its efficacy.

The vaccination against typhoid fever is just now receiving much attention. It appears to be harmless and should have the widest application if only to give it a thorough test under varying conditions. We should not, however, be so optimistic as to lead the public into thinking that the usual precautions may be neglected with impunity. The recent Army statistics are encouraging but they cannot be compared with those of the Spanish War camps, for example, in which the opportunities for the dissemination of infection were very favorable. Such conditions will probably not be reproduced again, and wherever vaccination goes there will also go a better insight into the disease on the part of the public and better means for suppressing the infection. The possible dose of infection will thereby be greatly reduced, and even a slight vaccinal immunity may prove effective against the natural infection. Therefore vaccination against typhoid should not take the place of and make unnecessary all those precautions which have hitherto been held as essential in combating it. There will continue to be still enough unrecognized infection about which will increase with density of population. For similar reasons it seems unwise to remove quarantine against small-pox even in a vaccinated community, which has been done by some states.

In tuberculosis the frequency of childhood infection has been regarded by Römer and others as a kind of protective vaccination. The modern theory of phthisiogenesis regards this early infection as a Janus looking either toward immunity in later life or toward an open progressive malady. If childhood is absolutely protected, infection will come later. If it is exposed too much, disease is sure to come. In this dilemma perhaps the safest position to take is that even with great care in preventing infection there will still be enough infection at large to keep the young immunized.

VACCINATION DURING THE COURSE OF INFECTION

If the procedure of injecting vaccines when the body is manifestly under the influence of the injecting agent had been presented fifteen or twenty years ago, it would have been met with skepticism and failure. It was assumed that the body is already fully occupied trying to rid itself of intruders, and that any further addition of micro-organisms would do harm rather than good. Pasteur had introduced a method for immunizing against rabies after infection and before any open manifestations of disease. It was reserved for Koch in 1890 to introduce the method of vaccinating during disease by the use of tuberculin.

In 1902 Sir Almroth Wright began his work in treating chronic bacterial infections with vaccines consisting of suspensions of bacteria killed by heat. In introducing this mode of treatment Wright associated with it the rise and fall of particular normal substances in the blood, the opsonins. These, by acting on bacteria, made them a more ready prey of phagocytes. Wright at first limited his treatment to localized bacterial infections. Only later did he attempt to influence infections associated with bacteriemia and other indications of an active, generalized process.

This invasion of the precincts of active disease by clinicians with their vaccines has been viewed with much interest and trepidation by bacteriologists. It seems like adding fuel to the flames. But there may be unknown factors in the path leading toward immunity which the bacteriologist has not yet sensed. The clinical conditions attacked by vaccines are not easily studied by experimental methods. In the laboratory, investigations on immunity have been largely and of necessity restricted to virulent organisms. The end-point of the experiment has usually been death or recovery. The animal in order to be saved had to be hyperimmunized, and the final result is a condition to be realized only by experimenting on highly fatal human infections.

Localized bacterial infections are processes toward which the human body in general possesses a high degree of natural resistance. This group of infections forms theoretically but a small local side-issue of the problem of immunity—that end of it tending toward recovery. It is but a step removed from the carrier problem. The great service of vaccines in this group of diseases lies in the fact that localized bacterial infections are exceedingly common and represent in most cases an annoyance and an infirmity rather than a danger to life. It is well to bear in mind this difference between laboratory studies in immunity and Wright's studies. His work begins where that of the laboratory ends. Local lesions in animals under decent conditions usually heal quite promptly and do not engage the attention of the experimenter to any extent unless they are induced in a healthy animal for special purpose and represent the starting-point of a general invasion to be checked by appropriate experimental devices. Therefore experimental medicine is not in a good position to study immunity toward localized infections. Spontaneous cases in animals would be difficult to obtain in any numbers, and the production of artificial local infections would have to be associated with induced wounds.

How different Wright conceives his problem from the ones usually studied in the laboratory is gathered from the following quotation.[9] In discussing the concentration of bacteriotropic substances and phagocytes in the blood he says:

> It is, in view of these considerations, immediately intelligible that the animal organism should, as it does, successfully resist microbes administered through the channel of the blood, when it fails to offer resistance to the self-same microbes, administered by the way of the tissues.

The bacteria usually employed in laboratories are of such a character that infection by way of the blood is the most serious, by way of the subcutis less dangerous, and by way of the cutis least dangerous. If we attempt to immunize a rabbit toward a highly fatal strain of the rabbit-septicemia group we may eventually succeed in protecting it against a dose of virus rubbed into the shaven skin to which the control succumbs. A subcutaneous injection, however, may not be borne, and least of all an intravenous dose. The artificial immunity produced tends to restrict the virus to as limited a locality as possible. Its very end seems to be to keep it out of the blood. The rabbit stands in the place of a human being with local plague infection which has been held in check by a high degree of artificial immunization effected before the disease appeared. Would any one risk the injection of vaccines in a case of this kind to hurry along the healing of the local focus? When, on the other hand, we have a local infection with a staphylococcus against which the human race has been successfully fighting for ages and toward which a high degree of immunity already exists, the injection of vaccines in small doses has little if any bearing on the restriction or dissemination of the virus in the body. In the case of the plague lesion the acquired resistance may be broken down at any time by one of many accidents including vaccination. In the staphylococcus infection this is very unlikely.

Wright has fully appreciated the significance of localized bacterial infections as they usually present themselves in the human subject. According to him they are some miscarriage of the processes tending toward the complete elimination of bacteria. He proposes to help the affected locality by various measures such as increasing the flow of blood and lymph, free incisions and, by vaccination, to call forth and bring to the spot an increased supply of immune bodies, that is, opsonins and leukocytes. Without wishing to question the general accuracy of Wright's brilliant observations on localized infections, we might venture to enquire whether many such infections are due to lack of immunity at all. May not these miscarriages as he calls them be due to a slight disarrangement of the immune forces in their attack? If, for example, as he states, "a wound may be pouring out day by day an ineffective pus," would not a local vaccination tend to withdraw some of this "ineffective" pus to itself and restore the balance? In those cases of "brawny swelling" in which there are too few leukocytes and too much serum, may not the free incision give the pent-up bacteria a better chance to multiply in the open wound and thereby stimulate leukocytes to the spot to form pus and thus restore the balance in the opposite direction?

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[9] Wright: Studies in Immunization, 1909, p. 453.

These questions indicate that at least some localized infections may be due to disturbances of a delicate equilibrium rather than to a deficiency of immunity as we usually understand the term. It is of interest to note here that in such cases vaccination is after all merely a safer and surer way of doing something which the setons of former centuries did in an unsafe and less certain way. If the seton wound became infected with the right organism, which might happen through the blood or by accidental infection from the wound, the vaccination became a continuous process, and an outlet for "superfluous" leukocytes was made while the immunity was being raised.[10] The non-specific fixation abscesses of the French may perform a similar service.

The treatment of bacteria-carriers with vaccines requires no special comment. The carrier is as a rule immune, and with the application of reasonable doses of vaccine harm can hardly be done. Whether or not such treatment is going to be effective must be determined on the patient himself. If the attempt to create experimental material by making animals artificially carriers should succeed it would serve as valuable material for chemotherapeutic studies. But it is doubtful if such animals treated with vaccines would give us any final knowledge concerning the application of vaccines to human carriers. The attempt to make rabbits typhoid carriers for purposes of experimentation with vaccines is at best producing a greatly distorted image of human conditions. The relation between the rabbit and the typhoid bacillus is purely artificial. It would be better to try a paratyphoid toward which some spontaneous susceptibility is known to exist.

Vaccines are now employed in affections in which the specific agents can be frequently detected in the blood and in which symptoms indicate that the infection is no longer strictly localized. They have been applied in the course of typhoid fever, pneumonia, puerperal sepsis, general streptococcus infections, gonorrheal metastases and the like. Is there anything in the armamentarium of bacteriology and immunology that can be used to defend and encourage this form of vaccine therapy? Is there anything to forbid it?

Medical science is here again at a disadvantage because the types of disease mentioned are not exactly reproducible in the laboratory. The feature in them which attracts attention is the presence of bacteria in the blood, either constantly or spasmodically. This condition of bacteriemia has perhaps been regarded as of more serious import than it really is. In the laboratory the bacteriologic conception of septicemia implies certain death for the reason already stated, that bacteriologists are in the habit of using only highly virulent organisms which produce speedy blood infection. Such types of disease must not be identified with infections which last many weeks and months and are associated with, let us say, streptococci in the blood. In the latter case the streptococci may be mere passersby, ready, it is true, to do damage wherever a favorable nidus offers, but probably not multiplying to any extent in the blood-stream or outside of protected foci within organs. To make my statement clear let us take an extreme illustration, the presence of myriads of microfilaria in the blood, in filariasis. This condition is also a septicemia, but the metabolism of the nematode larvae is of so little offense to the host that no appreciable reaction is produced and the patient remains well. With trypanosomes the situation is more serious. The other extreme is the plague rat or similarly susceptible animal in which the blood is apparently the favorable tissue for multiplication. Between these extremes various intermediate degrees of blood-infection occur depending on the rate of multiplication of the parasites in the blood. Again bacteria may even remain latent for many months in organs associated intimately with the blood such as the spleen, or at any rate multiply so slightly that the inoculated animal remains well. Marshal Fabyan,[11] working in my laboratory, has shown that the bacilli of cattle abortion may be cultivated in considerable numbers from the spleen of various laboratory animals many months after inoculation, without causing in the meantime any appreciable symptoms or lesions. These illustrations must suffice to show that the presence of parasites in the blood or blood-forming organs may have various meanings.

Returning to the cases of bacteriemia which have been found to persist many weeks in association with some local focus of infection, can we safely superpose on this condition dead bacteria of the same kind and, if the procedure is safe, is it beneficial? We have Wright's statement followed by that of many others, that in such cases great benefit from the use of vaccines has been observed occasionally. It is not within the scope of this discussion, however, to do more than suggest some theory which may harmonize to a certain degree opposing views of immunologist and clinical vaccinator. The point of view I wish to present is that the bacteria in chronic localized infections which spread into the blood may be immune or fast (to use Ehrlich's term), so that they are neither destroyed nor capable of much increase. Their defensive mechanism is highly developed, either because they are special, highly parasitic varieties or else because a long-drawn-out habituation to a particular host has made them so. With this goes also very slight multiplication. Hence little bacterial substance is set free to cause serious injury or to stimulate immunity. The injection of cultivated bacteria which are of a much lower grade of resistance, in the form of vaccines, may perhaps supply the needed stimulus and raise the immunity to that level from which the parasitic forms may be successfully attacked.

There is an apparent contradiction between this explanation or theory and the one I have presented earlier in this article. I stated there that to produce a maximum immunizing effect bacteria should be as near their original parasitic state as possible, so as to be endowed with all the antigenic properties which they possess in the host. Here on the contrary I assume that in combating long-drawn-out bacterial infections we need vaccines not so resistant as their originals in the blood. But it will be remembered that the first demand referred to prophylactic vaccines. The body has then ample time to work over the vaccines and by prolonging the assimilation, a higher degree of immunity is to be expected. In vaccine therapy, however, the vaccine must be utilized by the body at once.

It is obvious that from what has been said vaccination in the course of disease is not a matter to be taken lightly. Each case presents its own peculiar problems which must be studied not only that vaccines may achieve a possible success but that they may do no harm. The one who administers vaccines or advises their use should have thorough training in experimental and comparative immunology. Not only should he be on terms of intimate personal acquaintance with the facts and theories of infection and immunity, but he should also be a practical bacteriologist and know how to prepare and evaluate the vaccines to be used. I therefore agree with Wright that we need vaccinators who should be specially trained and work in cooperation with the clinician. We can hardly expect a physician to be both a vaccinator as defined and a skilled all-round clinician, but we can have cooperation of two men sharing the responsibilities involved in these lines of work.

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[10] It should be added that the seton vaccination was a vaccination with living bacteria and therefore more effective provided the "autogenous" organism gained access to the wound, maintained by the seton.

[11] Fabyan, Marshal: Jour. Med. Research, 1913, xxiii, No. 1.

THE COMMERCIALIZATION OF VACCINES

In view of the difficulty of deciding when a vaccine may be used, and the necessity for estimating in each case the probable immunity already possessed by the patient from data obtained from the history of the case, from bacteriologic and clinical observations, the widespread commercialization and indiscriminate use of vaccines are to be viewed with considerable misgiving. From one of the most delicate problems the injection of vaccines is being brought to the level of a crude patent-medicine cure-all. Even with the greatest care in administration, there is still plenty of empiricism bound up with the use of vaccines as long as our knowledge of immunizing and toxic factors remains incomplete. The overburdened physician is ready to substitute some other responsibility and authority for his own, and commercial interests are but too ready to assume it.

The recent introduction of mixed vaccines is a case in point. The practitioner takes this vaccine and feels confident that it will hit something in his patient's condition. In addition to the unscientific use of mixtures in which the ingredients, if they act at all, not only may act alone, but also may combine to produce unanticipated results, the injection of mere filtrates cannot be supported from a scientific point of view. Filtrates may contain the toxic, or offensive, rather than the immunizing properties of cultures. They are known to contain endotoxins. We know from laboratory tests that fluid cultures increase in toxicity with age, that each species has its peculiar toxin curve, that toxicity depends on slight differences in culture mediums arising from the kind and quality of meat used, the amount of sugar present, the initial reaction, the relative exposure of the fluid to the air during multiplication, and the age of the filtrate. All these would require, in any case, most careful standardization. There is no evidence to show that even if such mixed vaccines were of maximum immunizing power, a single or even a series of injections would prevent secondary or mixed infections. The incidence of secondary or mixed infections during the course of a primary infection is probably beyond the reach of any dose of vaccine we can safely give. It means the breaking down of natural barriers of immunity of which we have as yet no very clear understanding.

The wide-spread use of bacterial products in therapy, more particularly in our own country to-day, signalizes that the empiric has far outstripped the experimental movement. This has always been so and will probably continue. The great pressure brought to bear on the medical profession to find something that will cure disease, even if the cure seems like making water flow up hill, has tended to develop the haphazard, adventurous and empiric at the expense of rational, scientific methods of investigation.

But we cannot eliminate empiricism wholly. We owe valuable suggestions and discoveries to it. These are like clearings in the forest unconnected with other clearings but destined to become the nucleus of a healthy scientific growth. There are so many complex factors in biology with which we must deal and which at present defy further analysis, that a scientific empiricism is needed to deal with them. We should not have antitoxins to-day if we had waited for the orderly development of our knowledge from the normal proteins of the blood to the immune antibodies.

There is a wide margin, however, between conservative empiricism based on and starting from all available scientific data, and a radical program which throws them to the winds and proceeds in defiance of well-established doctrines. Our position toward this radicalism should be governed only by humane considerations. The medical profession should see to it that vaccine therapy does not degenerate into inconsiderate and reckless experiments on human beings, that it does not create false hopes in hosts of patients, and that it does not originate and end in commercialism and the desire to exploit the weak and unfortunate. To prevent these calamities, several lines of action are open. We should begin by influencing the student. Courses should be modernized so that through experiment and personal observation he may gain a more thorough grasp of the scientific method and a critical attitude toward old as well as new doctrines governing prevention and treatment. Your president, Dr. Richard M. Pearce, has made a splendid beginning in raising the teaching of pathology from the old, descriptive and static to a new dynamic level. His example should inspire others to do likewise.

In laboratory research we should not follow new and untried leads to the detriment of old work undone. We are too much interested in sudden and unexpected turns of the road we are traveling and loth to walk the long straight, uninteresting road which usually follows some important discovery. In immunology we are neglecting quantitative studies to hunt for new and somewhat spectacular events. We must approximate our laboratory work more closely to human problems, rather than stop where they begin. To do this we must study genuine animal infections, more in detail, and attempt the production of such diseases experimentally as will illustrate not only the beginning, but various other portions of the immunity curve. We shall then be able to estimate more wisely and promptly the true value of innovations. We have the solemn responsibility of avoiding such doings as may encourage the future quack. The charlatan of to-day simply flourishes on the harvest sown unknowingly by the profession of a former generation.

SUMMARY AND CONCLUSIONS

In conclusion, let me briefly summarize the points to be emphasized. All parasites tend to increase the resistance of the host in which they live and multiply. Out of this universal fact a number of practical problems arise. In any given disease is it worth while to try to raise this immunity, and how much energy will it cost the patient? If worth while, what is the best and most sparing way of raising such immunity artificially? In any localized infection we must ask: Is this a beginning process without attendant immunity, or is it a residual process associated with general immunity? If the latter, vaccines may be considered safe. In processes associated with fever and bacteriemia, science says Hands off until we know whether we have a progressive disease with gradual undermining of the resistance or a more localized affection in which the excursions into the blood are secondary. In any case, the use of vaccines in these cases must be regarded as experimental, and should not be undertaken save in conjunction with one trained in immunologic problems.

Judged from this point of view, as well as from the work of the laboratory as a whole, we should say that vaccines applied during disease will be rarely, if ever, life-saving, but they may hurry a stationary or languid process which tends toward recovery, by bringing into play the unused reserves of various tissues.

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A PLEA FOR AN INSTITUTE OF HUMAN EMBRYOLOGY

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A superficial glance at the facilities for the study of anatomy suggests that the great number of specialists and students of this subject should suffice to insure an effective organization of the forces to promote the science in a satisfactory way. In fact, the forces are well organized through well-equipped laboratories, national and international societies, well established journals and the very best year-books. All this is due to the popularity and usefulness of the science during many ages, but it is easy to discern that much is still needed before the newer science of anatomy can be cultivated more effectively.

The parallel science of astronomy has in many respects a similar history to that of anatomy; it is also practical, popular and ancient; it has had its Hippocrates (Hipparchus), its Galen (Ptolemy) and its Vesalius (Copernicus); but its *organization for research* differs distinctly from that of anatomy. There are fewer astronomic observatories than anatomic laboratories, and fewer astronomers and students of astronomy, but unlike the work of anatomists, that of a large percentage of the astronomers is of a very high order. Should we not pause for a moment and ask ourselves whether the *science of anatomy would not* be furthered better and quicker if the example set by astronomy were imitated? In his "Advancement of Learning" (Book 2), Bacon says:

> I take it those things are to be held possible which may be done by some person, though not by every one; and which may be done by many, though not by *any one*; and which may be done in a succession of ages, though not within the hourglass of *one man's life*; and which may be done by public designation, though not by private endeavor.

It is the last portion of Bacon's statement which points out the way. We should have anatomic institutes for research, not in a vague way, as in the universities, but for specific investigations which are beyond the reach of a single individual or university department. In universities most of the time and energy of the teachers of anatomy must necessarily be devoted to education, and this effort is beneficial to the individual investigator, as it compels a broad stand to teach successfully the elements of any science. Under these conditions the professor can not make a sinecure of his position. But the devoted teacher has left only the minor portion of his time for study, and the progress of science necessarily stagnates. If the real anatomists devoted all of their time to science, and cooperated in their work, would they not make greater progress than is now possible?

The second half of the last century witnessed the building of a very large number of laboratories in various universities and this naturally called for more investigators and teachers in each science. A greater demand for scientific achievement naturally followed, and a larger percentage of teachers who were *also* investigators made their appearance. While it will always be the case that many problems will be solved by unaided individuals with practically no equipment, *organization* for more elaborate problems will favor and extend their efforts and not antagonize them. There is an ever-growing tendency for the able investigators *to* call for more eyes and hands to help, and above all these will find the atmosphere in research institutes congenial. So in recent years investigators, *governments* and benefactors have seen more clearly than ever that men of ability should be endowed in order that science may profit most by their efforts. As a simple statement this is self-evident—to carry it out is by no means easy—*but* the opportunity it describes has called forth a new type of high-minded, far-sighted administrators whose success so far guarantees much greater success in the future.

An abundance of experience has shown that an institute for research must be in charge of an investigator of a high type, and that the *function of the institute* should be sharply defined in order that the effort may be of value instead of a hindrance to science. For if a research institute is misdirected, as regards scientific achievement, a bad example is set which has a tendency to prevent other worthy efforts. So when the Reichsanstalt was founded, an enlightened administration placed Helmholtz at its head: the International Association of Academies chose His as first leader of the Brain Commission: the Rockefeller Institute found Flexner; and Hale was secured for the solar observatory. Selections like these inspire confidence in research institutes, for by their acceptance great leaders declare that the efforts are worthy.

The Naples Zoological Station served as a great stimulus to biologic and embryologic research, for it gave a new outlook to cloistered investigators by bringing them together at the seaside. The leading anatomist of his day, His, was greatly impressed by a sojourn at this station and later, when the opportunity arose, he made a plea for a research institute of human embryology as well as for one of neurology. The great man asked too much of the International Association of Academies, but it sanctioned a commission on brain research. His was made president of this commission, but death prevented him from contributing more than the outline for its organization. Since then the commission, now known as the Brain Commission, under Waldeyer's leadership, has been instrumental in bringing into existence, or into the commission, nine well organized laboratories in different countries. The Brain Commission is a society of neurologists under control of the Associated Academies; its chief function has been to found neurologic institutes; it meets triennially and its report is submitted a year later to the academies.

The second project of His, namely, that an institute of human embryology be founded, was referred by the Associated Academies to the anatomic societies. At the meeting of the German Anatomic Society, held in Bonn in 1901, a committee was appointed, composed of His, Waldeyer, Keibel and Rabl, to arrange for cooperation in embryologic research, but it developed no activity. Nor was this question considered by the first Congress of Anatomists in Geneva in 1905. At the second session of this congress, held in Brussels in

1910, however, a committee was appointed to revise embryologic nomenclature. It may readily be seen that this committee, if it secured the endorsement of the Association of Academies, could easily accomplish for human embryology what the Brain Commission has done for neurology. Shortly after the appointment of the Brussels committee a self-appointed committee of three called a meeting at Utrecht to organize an International Institute of Comparative Embryology, which is composed of forty members, including all of the Brussels committee. This continued agitation shows that it has become a recognized fact that embryologic investigation needs international organization to further the science. The object of the Brussels committee is to revise embryologic terminology, and the Utrecht conference plans to make extensive collections of embryos of all classes of vertebrates; neither is to confine its field especially to human development. In the study of human embryology there are specific problems of great scientific and practical value which, on account of the nature of the question, cannot possibly be studied to the best advantage without more concentration of energies (including carefully outlined cooperation) than is planned by either the Brussels or the Utrecht committees. In a measure this has been done without financial aid in producing the "Manual of Human Embryology," generously published in German by Hirzel of Leipsic and in English by Lippincott of Philadelphia.

We must thank His for the first attempt to study carefully the anatomy of human embryos, but his work was planned on so large a scale that he never completed it. Gradually he lost courage to go ahead single-handed, as may be observed in his numerous publications in favor of cooperation in embryologic research. Thus we may trace back to him the incentive for Keibel's *Normentafeln,* Minot's great collection of vertebrate embryos and mine of human embryos. Although I have stated that the Bonn Committee was inactive, plans were made by His and Keibel to cooperate in the production of a work on human embryology as a continuation of "Die Anatomie menschlicher Embryonen." Unfortunately this did not materialize, but in its place we have the manual mentioned above. To produce these two large volumes nine American and six European embryologists have collaborated to bring together what is known about the developing human embryo. In the preparation of this work the human embryos, which have been prepared for investigation in various laboratories, have been studied wtih considerable care. But there are not many embryos in the total of all the collections; many of them are poorly preserved or prepared; their histories are usually inadequate; and most of the embryos are difficult of access. In spite of all of the disadvantages this manual gives, aside from the very early stages, a more complete account of the topographic and systemic development of man than we possess of any other animal. At present it seems impossible for the investigator-teachers to make greater progress than is here shown without better organization, and it is for this reason that I renew the plea of His for an institute of human embryology. Only in this way can we hope to secure a complete embryologic and scientific basis for human anatomy, which, it is being recognized, is in a chaotic state. In human anatomy, whenever an organ has been studied embryologically, many obscure and involved conditions have become clear, and in many instances this has aided the study of comparative embryology and comparative anatomy. Although this should not be the case, it is true, because the detailed anatomy of man is better understood than of any other animal, and the study of the human embryo therefore has the greatest value. I need only to cite His' studies of the heart and brain to support this statement.

The science of anatomy, which in great measure has been a mother of the biologic sciences, needs a thorough revision and a new basis, and this is to be obtained through the study of embryology. There should be an institute of human embryology just as there is one for human paleontology recently founded in Paris by the Prince of Monaco. To do this the following is required:

1. Much larger collections must be made.
2. Much better histories of the various specimens must be obtained.
3. The necessary material must be placed at the disposal of the most competent investigators.

The collection in Baltimore includes five hundred specimens which have been accumulated during a period of twenty years. It contains about one hundred normal embryos cut into serial sections, of which about one-fifth are really good specimens ranging from 2 to 30 mm. in length. Although great care has been taken to collect good histories of these specimens, they are still fragmentary, and by no means as reliable and extensive as they should be. Since, however, the quality of the specimens and histories is gradually improving, there is every assurance that a much better collection could be obtained under more favorable conditions. This collection is the result of the efforts of one individual, largely unaided. The Leipsic collection was also made by a single individual during a period of thirty-five years. In scientific value it is probably inferior to the Baltimore collection, for it antedates it. Since the death of His the collection has fallen out of use; in fact, most investigators do not know what has become of it. The other collections, which are smaller and scattered, have been drawn on freely by Keibel for his *Normentafeln* and by Keibel and Mall for the "Manual of Human Embryology." This is our present state.

In a measure gynecologists and obstetricians have been educated to preserve embryologic specimens properly and it now remains for embryologists to collect them for study. This process is taking place all over the world, but the material is scattered and of insufficient quantity. A vigorous institute, properly related to the investigators of the world and to the medical profession of a number of larger cities, should bring together as many embryologic specimens in a year as under present conditions an occasional investigator does in a lifetime. Were this the case there would certainly not be a dearth of both normal and pathologic embryos for study. The histories of the specimens should be as complete as possible, for, besides their age, we should also attempt to determine the cause of abortion.

An unusually large collection in an institute of human embryology would necessitate the best scientific equipment—assistants, specially trained technicians, artists and modelers to work up the good specimens at once, and to record and carefully to care for all material. Competent investigators should be invited to the institute, rare specimens should be borrowed, necessary material should be loaned and small grants should be made to distant investigators for special studies. The institute should be an independent center of sufficient magnitude to play an important rôle in the study of human embryology.

At present a single investigator easily makes a collection of embryos which is far beyond his power to study systematically during a lifetime, and still such a collection is too incomplete to show in a satisfactory way the continuous development of any organ. Cooperation is required and the best technical aid is needed to apply to advantage the methods we now possess. The tens of thousands of sections must be reconstructed to show the form of the various organs and structures on an enlarged scale in order that we may make progress in routine work as is the case in astronomy and geology.

With a very large collection, a competent staff and the very best material equipment the institute would naturally take up problems which bear on anatomy, physical anthropology, comparative embryology, physiology of gestation, pathology and teratology. The following larger questions at once present themselves:

1. Curve of growth.
2. Anatomy of various stages.
3. Morphology of the brain.
4. Histogenesis.
5. Cause of abortion.
6. Study of monsters.
7. Study of moles.
8. Comparative and experimental embryology to elucidate human.

Some of the subdivisions of these larger questions are as follows:

1. The norm should be established; embryos should be arranged in stages.

2. Are all portions of the embryo equally developed in like stages?

3. The corpus luteum should be standardized in relation to stages of the embryo.

4. An attempt should be made to determine with precision the age of embryos.

5. To what extent do the stages of the embryo, their age and degree of development of the corpus luteum correspond? (These questions having a bearing on the time of fertilization, duration of pregnancy, and in rare cases on illegitimacy.)

6. All kinds of measurements of a physico-anthropologic nature should be made on the embryo and fetus, to ascertain if possible an explanation for marked anatomic variations. In certain portions of the body variations are more pronounced and more frequent than in others. This condition may be due to unequal development in early stages when there is much shifting of great masses of tissue.

7. Careful comparison of the degree of development in twins. Is the rapidity of development the same in the two sexes?

8. Does the health and nutrition of the mother influence development? Is there a critical point in early development which subsequently influences the physical and even the mental well-being of the individual?

9. A norm is to be established not only for the embryo but also for each organ, structure and tissue. Ultimately, it is to be hoped that such a study will give a norm for adult human anatomy, which at present is based on opinion. It goes without saying that such study would in the course of a generation or more give us a new and improved science of anatomy and a rational terminology.

10. Normal embryos are to be separated from the abnormal and the pathologic.
   A. A careful study is to be made of embryos obtained through hysterectomies.
   B. Through tubal pregnancies.
   C. Through artificial abortions.
   D. Through "natural" abortions.
   E. These various groups are to be compared with corresponding stages from other mammals.

11. In "natural" abortions the cause is to be investigated. To what extent is it due to syphilis, gonorrhea, or infection by the physician or the midwife?

12. The social evil probably plays a great rôle here. To what extent this is the case may possibly be determined by making collections in country districts as well as in cities. The frequency of abortion in two such districts would have to be ascertained.

13. The norm of the chorion must be determined anew.

14. Sterility in both the male and female.
   A. Tendency toward sterility.
   B. One-child marriages.
   C. Sterility after a number of births.

15. Abnormal embryos.
   A. Slight degree.
   B. Polysomatous monsters.
   C. Merosomatous monsters.
   D. Pathologic embryos.
   E. Moles.

16. In tubal pregnancies only the very early pathologic embryos are found or the very late kind. This deserves investigation.
   A. Nos. 11 and 12 above bear on this question.
   B. Monsters are caused by a diseased uterus. To what extent is this due to gonorrhea?
   C. Study monsters in other mammals; for example, in the pig.
   D. Imperfect implantation to be investigated.

17. The relation of human embryology to pathology.
   A. Tumors.
   B. Excessive and deficient development of organs and tissues.
   C. Embryonic remnants.
   D. Chromaffinic organs, etc.
   E. Pathology of the syncytium.

It may appear that the above outline emphasizes unduly the making of a collection, but this is not the intention, for in my opinion the chief function of an institute of human embryology should be the formation and solution of problems. To make the effort of great value it would be necessary to plan the work on a larger scale than is possible with the means now available. The laboratory space required and its equipment would be insignificant, but the funds should be sufficiently large to support properly a small staff with the very best technical and clerical assistants. The correspondence required would be extensive, a certain amount of traveling would be necessary, and grants should be made to insure the cooperation of several of the foreign embryologists.

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SPEECH WITHOUT A LARYNX

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Normal speech requires breath from the lungs acting on the larynx and the organs of enunciation in the throat and mouth. When the larynx has been removed without cutting off the supply of breath from the lungs to the mouth, the speech is like that of a very faint whisper. When the air-passage is entirely closed between the lungs and mouth, speech ceases entirely. Although the person can make all the movements of enunciation, he has no means of producing any sound. Strangely enough, however, he can be taught to speak quite audibly in a new way.

Several such cases have been reported, but I have recently had the opportunity to push the speech development much farther than anywhere reported by employing some of the finer principles of phonetics.

The patient came to me three months after his larynx had been removed for carcinoma. The passage from the mouth to the trachea was entirely closed. He breathed through a tracheal cannula.

To produce the explosive "p" he was taught to close his lips and compress the air in his mouth and pharynx by tension on the cheeks and in the back of the throat. On opening the lips there was a puff or explosion of the air that produced a quite unusually audible "p".

For "t" he placed the point of the tongue against the palate and compressed the air in the mouth and pharynx. The moment the closure of the tongue was released he produced a "t" that was more distinct than one produced normally. Just this same "t" is taught in one system of elocution; the speaker shuts his glottis tightly and compresses the air in the mouth and pharynx; this form of enunciation can be heard very far away in a large hall where the ordinary "t" would be inaudible. For "k" the back of the tongue is raised; otherwise the mechanism is the same.

For the fricatives "f," "s," "sh" (as in "shoe") and "th" (as in "thin") a narrow passage is formed between lips and teeth, tongue and palate, etc. For these sounds the air is furnished by mouth- and throat-compression just as for the explosives. All these sounds are made normally by pressure of air from the chest but without any action of the larynx; they are called "surds."

For the normally made explosives, "b," "d," "g" (as in "go"), and the fricatives "v," "z," "sh" (like "s" in "pleasure") and "th" (as in "thine"), the larynx is required to vibrate. They are called "sonants." The positions of the lips, tongue and palate are approximately the same as for [illegible]rds described above; consequently, without the laryn[illegible]tions there is no difference between "p" and "b," [illegible] "k" and "g," "f" and "v," etc., and it follows [illegible]ds the same as "pet," "bag" the same as [illegible] ence that would replace the laryngeal tone [illegible] the air from the tracheal cannula. Any [illegible] a rushing sound. The patient was taught [illegible] rushing sound during the production of [illegible] made a marked difference between the [illegible]

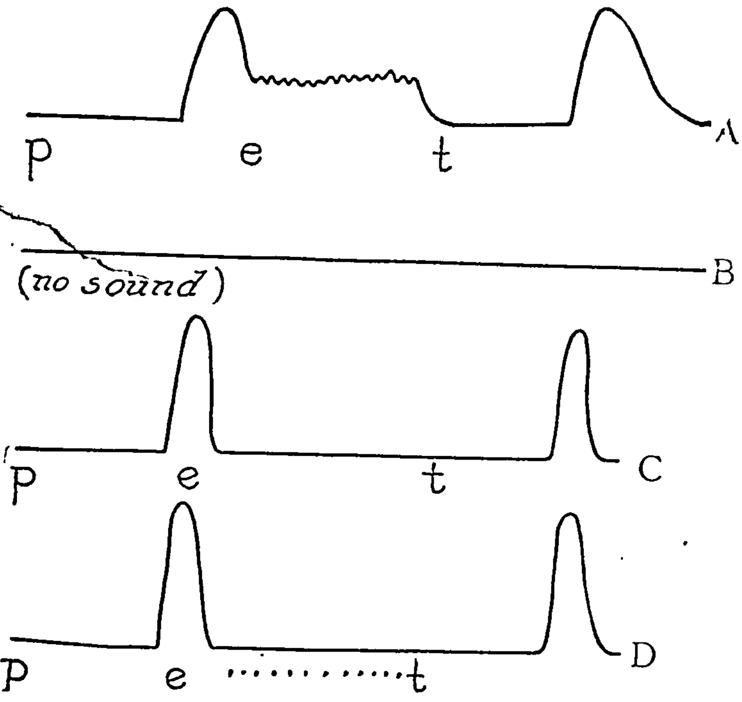

Fig. 1.—*A*, normal speech, showing occlusion and explosion of "p," vibrations of "e" and occlusion and explosion of "t." *B*, patient's speech before training; no sound although tongue movements were correct. *C*, patient's speech with pharyngeal compression; "p" and "t" distinct but only a faint brief vowel. *D*, patient's speech with pharyngeal compression and cannula hiss; interval of vowel is distinguished from silence.

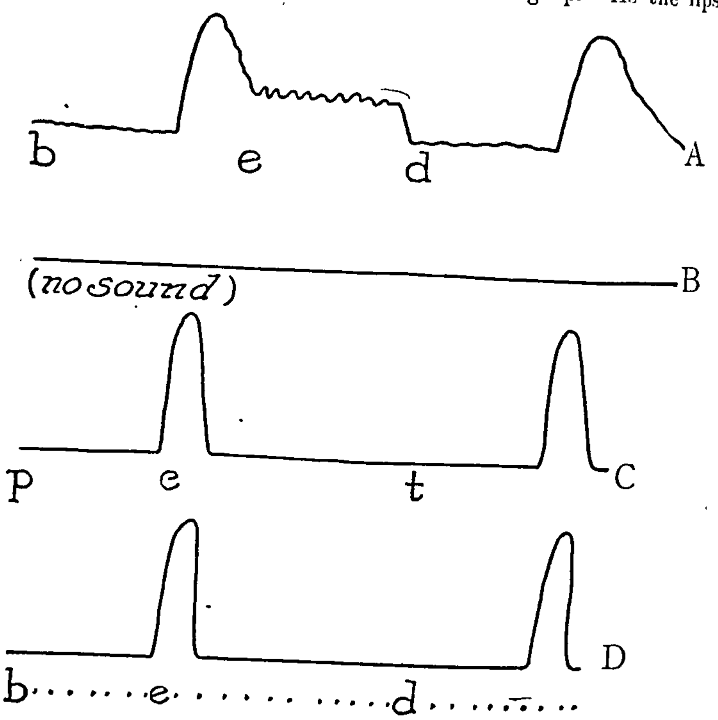

Fig. 2.—*A*, normal speech showing vibrations during "b" and "d." *B*, patient's speech before training. *C*, patient's speech with pharyngeal compression only; no difference between "bed" and "pet." *D*, patient's speech with pharyngeal compression and cannula hiss; the sounds are differentiated from the preceding case.

The vowels are formed by placing the lips, tongue and velum in certain positions. The vibrations from the larynx arouse resonance vibrations in the cavities of the pharynx and mouth. With no vibrations from the larynx, no spoken vowels can be formed. Whispered vowels are produced by a rush of air through the larynx. The rush of air through the pharynx and mouth when an explosive was ended by the patient gave an indication of the following vowel, but the sound was weak and brief and the vowels were not sufficiently distinguished from silence. To remedy this to some degree, the patient was taught to expire through the cannula for each vowel. The vowels were thus more clearly distinguished from pauses.

With the graphic method of recording speech, the person speaks into a tube ending in a rubber membrane. The movements of this membrane are recorded on a moving surface by a light lever. The record gives the vibration and puffs of air in the voice.

A record of "pet" spoken normally is given in the top line of Figure 1. The straight line at the beginning gives the time during which the lips were closed in making "p." As the lips were opened a puff of air was emitted; this blew the lever upward and made the sudden jump in the line. The vibrations of the vowel "e" were registered as fine waves. The closure of the tongue against the palate for "t" and the puff of air at its release made a record like that of "p." With no pharyngeal compression the patient produced no sound at all; the record is a straight line. (See *B*, Fig. 1.) With compression he made a record for "pet" like the normal one except that the vowel was a brief, faint whisper. (See *C*, Fig. 1.) By breathing through his cannula, the breathy voice replaced the silence. (See *D*, Fig. 1.)

The top line of Figure 2 shows the normal record for "bed." The voiceless condition of the patient is indicated in the second line *B*. The enunciation with pharyngeal compression without the cannula-noise did not differ from that of "pet." (See *C*, Fig. 2.) The distinctness was much improved by using the breath from the cannula. (See *D*, Fig. 2).

The mechanism for each sound was explained to the patient. He found the work interesting and carried it out so very successfully that speech could be heard distinctly through two large rooms.

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THE GERMICIDAL EFFICIENCY OF COMMERCIAL PREPARATIONS OF HYDROGEN PEROXID

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Hydrogen peroxid has been recommended for germicidal purposes for many years. Its application has been advocated for rendering water and milk safe, for disinfection of sewage; it has been applied in medicine, surgery, dentistry, hair-dressing, etc. The chief advantage claimed for hydrogen peroxid over many other germicides is the fact that the decomposition products are harmless. It has also been claimed that toxins, such as diphtheria and tetanus toxins, are destroyed by it.[1] Its use for treating water and milk is, therefore, of considerable interest.

There are some objections, however, to the use of this chemical. It decomposes rapidly. The presence of small amounts of acid prevents decomposition to some extent. Some commercial preparations contain acids, acetanilid, or arsenic, barium salts, etc. The amount of acid, corresponding to about 0.2 per cent. hydrochloric acid, is perhaps harmless, and according to Croner[2] increases the germicidal effect. In neutral and alkaline solutions decomposition is rapid and keeping qualities are poor. According to Lukin,[3] alkaline solutions have higher germicidal power than acid solution.

Temperature is of importance in relation to the keeping quality and the germicidal efficiency of hydrogen peroxid. At 0 C. (32 F.) decomposition is slight and germicidal efficiency feeble. As the temperature rises decomposition proceeds more rapidly and germicidal effect increases. This fact involves a difficulty in application, since water and milk have to be treated at relatively high temperatures and then cooled to render them palatable. It is obvious that for sewage purification hydrogen peroxid is not likely to be successful, since the usual temperature of sewage is too low for its efficient germicidal activity.

Possibly more attention has been given to sterilizing milk with hydrogen peroxid than to any other phase of the subject. It may be added to milk either in solution or by using peroxids, which liberate H_2O_2. Solutions of the preparation are placed on the market by various manufacturers, the claimed percentage of actual H_2O_2 being 3, 4.5 or 30 per cent. Of metallic peroxids, sodium peroxid, calcium peroxid or magnesium peroxid has been used. Sodium peroxid produces an alkaline solution, so that the germicidal effect is feeble and deterioration rapid. Calcium peroxid has the disadvantage of liberating calcium oxid, and magnesium peroxid is not soluble.

There is no definite agreement among workers as to the exact minimum amount of hydrogen peroxid which will infallibly sterilize. Several factors have to be observed, and possibly failure to observe some one of these has caused the discrepancy in results. The reaction of the solution, the temperature at which the experiments are carried on, the presence of oxidizable substances, including enzymes, and the variability of hydrogen peroxid content in the solution have to be taken into account. The quantity of fat in milk is also a disturbing factor. Chick[4] has stated that skimmed milk requires but one-half the amount of this substance needed for sterilizing whole milk. Chick explains this by stating that catalases, which are present in milk and which rapidly decompose H_2O_2, adhere to the fat globules and are present in relatively small amounts in skim-milk.

Different germicides generally possess various degrees of destructive power toward different species of micro-organisms. Hydrogen peroxid is no exception to this rule. Vegetative forms of bacteria seem to have less resistance than molds.

In 1903 Budde[5] proposed preserving milk by the use of hydrogen peroxid, a process that has since been called "Buddeising." Small amounts of hydrogen peroxid (12 c.c. of a 3 per cent. solution) are added to one quart milk at a temperature of 52 C. (125.6 F.). The milk is supposed to be sterilized in a few hours. Buddeising of milk, however, has not become popular for several reasons. The certainty that the majority of bacteria are destroyed by the process may encourage careless production. Another reason is that even in such small quantities as 0.1 per cent., according to Gordan,[6] hydrogen peroxid imparts a disagreeable taste to milk. Undecomposed remnants of hydrogen peroxid can hardly be avoided. Much and Römer[7] have attempted to overcome this objection by adding a catalase to the milk after sterilization by hydrogen peroxid has been completed. The remaining H_2O_2 is then decomposed by the catalase. A third drawback of Buddeising is the rapid and almost complete separation of cream. Finally, the uncertainty of commercial preparations renders results doubtful. If the milk were treated with a reliable solution of H_2O_2 on a large scale before bottling, good results might be obtained.

Benefits to be derived from Buddeising have been reported by some investigators. Thus Baumann[8] thinks that the process might be successful if the milk is produced under sanitary conditions, and Hewlett[9] asserts that Buddeising destroys 99.9 per cent. of all bacteria in milk. Böhme[10] considers Buddeising at least equal, if not superior, to boiling milk. According to this author the chemical and physical changes produced by boiling milk are not produced by Buddeising. It has not been shown, however, that hydrogen peroxid treatment leaves the milk constituents unaltered.

Solutions of hydrogen peroxid have gained considerable popularity. It is commonly used for a variety of purposes. The object of the investigation reported in this paper was to determine how far claims of manufacturers could be relied on for practical purposes. The exact amount of H_2O_2 contained in the preparations tested was determined, but not taken into account since it did not seem necessary to ascertain the exact amount of H_2O_2 which is required for complete sterilization. A bactericidal efficiency equal to the efficiency of pasteurization of milk requires much smaller amounts of germicide than are necessary for complete destruction of micro-organisms.

The plan of the investigation was as follows: Commercial preparations were used in equivalent quantities according to the amount of H_2O_2 claimed by the manufacturers, with no regard to the actual amount present. Definite quantities were added to milk, water and suspensions of several species of bacteria. Bacteria were taken from forty-eight-hour-old agar-slant cultures, and suspended in sterile water and sterile milk. Several suspensions of each organism were tested and by using from one to three tubes the density of the suspensions was varied.

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[1] Sieber: Ztschr. f. Physiol. Chem., 1901, xxxii, 373.

[2] Croner: Ztschr. f. Hyg., 1909, lxiii, 319.

[3] Lukin: Centralbl. f. Bakteriol., 1905-1906, xv, 20 and 165.

[4] Chick: Centralbl. f. Bakteriol., 1901, No. 2, vii, 705.

[5] Budde: Milchzeitung, 1903, xliv, 690.

[6] Gordan: Centralbl. f. Bakteriol., 1904, No. 2, xiii, 716.

[7] Much and Römer: Berl. klin. Wchnschr., 1906, xliii, 1004.

[8] Baumann: München. med. Wchnschr., 1905, lii, 1083.

[9] Hewlett: Lancet, London, 1906, i, 209.

[10] Böhme: Deutsch. med Wchnschr., 1906, xxxii, 17

Milk was tested in 1-liter (1-quart) flasks, each containing 250 c.c. Plates were made in beef-extract agar. The composition of the agar was as follows: 0.3 per cent. extract of beef, 1 per cent. peptone, 1.5 per cent. agar, and 1 per cent. dextrose. The reaction was 1 per cent. acid to phenolphthalein. The original number of bacteria in the milk was determined previous to the addition of the hydrogen peroxid solution. To one flask containing 250 c.c. milk, H_2O_2 was added in the proportion of 0.36 parts per thousand, to a second flask 0.72 parts per thousand, and to a third flask 1.44 parts per thousand. These quantities may be expressed in teaspoonfuls: For the 3 per cent. H_2O_2 solution there would be 3, 6 and 12 teaspoonfuls to each quart of milk, respectively. For the 4.5 per cent. solution of H_2O_2 there would be 2, 4 and 8 teaspoonfuls per quart. One part of the 30 per cent. solution was diluted with 9 parts of sterile distilled water so as to make a 3 per cent. solution. The tablets of magnesium peroxid showed on analysis to correspond to 2.2 c.c. of the official 3 per cent. solution. One tablet in 183.5 c.c. of milk therefore corresponded to 0.36 parts H_2O_2 per thousand. The tablets were crushed before addition to the milk.

For water the amounts taken were one-eighth of the amount used for milk. That is to say, 0.045 parts H_2O_2 per thousand were added to one flask, 0.9 parts per thousand to the second, and 0.18 parts per thousand to the third. Expressed in teaspoonfuls: For the 3 per cent. solution, 1.5, 3 and 6 teaspoonfuls per gallon of water, for the 4.5 per cent. solution 1, 2 and 4 teaspoonfuls per gallon. Corresponding to these figures one tablet of magnesium peroxid in 1,467 c.c. water represents 0.045 parts H_2O_2 per thousand.

The amounts of H_2O_2 solution used were in accordance with the statements of manufacturers without regard to the accuracy of these statements.

The hydrogen peroxid solutions were allowed to act for six hours at room temperature, which averaged about 22 C. (71.6 F.). Plates were prepared from suitable dilutions and incubated for two days at 37 C. (98.6 F.). After twenty-four hours' action of the hydrogen peroxid another set of plates was prepared. Counts were always made after forty-eight hours.

The preparation, designated as Preparation 1 in the tables, was bought from various dealers. The other three preparations were obtained from the chemical laboratory of the American Medical Association. Preparation 1, therefore, had been subject to possible deterioration in the hands of dealers, while the other three preparations were obtained by the laboratory of the American Medical Association direct from the manufacturers.

The accompanying tables show the results of the investigation in condensed form. Preparations 1, 2 and 3 are solutions of H_2O_2 of various manufacture. Tablets of magnesium peroxid were designated Preparation 4. The number of flasks represent the various amounts of H_2O_2, supposed to be contained in the four preparations. Thus: For tap-water and bacterial suspensions in sterile water, Flask 1 received 0.045 parts H_2O_2 per thousand; Flask 2, 0.09 parts H_2O_2 per thousand, and Flask 3, 0.18 parts H_2O_2 per thousand. For milk and bacterial suspensions in sterile milk, Flask 1 received 0.36 parts H_2O_2 per thousand; Flask 2 received 0.72 parts H_2O_2 per thousand, and Flask 3 received 1.44 parts H_2O_2 per thousand.

Table 1 shows that if 99 per cent. or over of reduction is taken as sufficient efficiency, Flask 1 showed efficiency only in Experiment 3, Preparation 3; if the period of action is limited to six hours. Flask 2 showed efficiency in Experiments 1, 2 and 3 with Preparation 3. Flask 3 showed efficiency in Experiments 1 and 2 with Preparation 2 and in Experiments 1, 2 and 3 with Preparation 3. The magnesium peroxid tablets (Preparation 4) were not efficient in any case. After twenty-four hours the efficiency is somewhat greater. In Experiments 1 and 3, Preparation 3 was efficient in Flask 1; in Experiment 1, Preparation 2 was efficient in Flask 2, and in Experiments 1, 2 and 3, Preparation 3 was efficient in Flask 3. On the whole, this series shows that H_2O_2 solutions are efficient, after six hours, in amounts of 0.09 of actual H_2O_2. Preparation 4 is insufficient even after twenty-four hours in the quantities tested.

TABLE 1.—THE GERMICIDAL EFFICIENCY OF COMMERCIAL PREPARATIONS OF H_2O_2 ON TAP-WATER

Sample No.	Preparation	Flask	Efficiency	
			After 6 Hrs. Per Cent.	After 24 Hrs. Per Cent.
1	1	1	92.45	92.45
		2	93.66	94.56
		3	95.47	98.29
	2	1	97.73	98.34
		2	98.47	99.24
		3	99.39	99.55
	3	1	99.51	99.73
		2	99.51	99.76
		3	99.76	99.76
	4	1	81.11	86.24
		2	88.92	92.41
		3	98.71	90.08
2	1	1	96.21	96.60
		2	97.65	98.43
		3	98.17	99.48
	2	1	97.24	97.70
		2	98.39	98.62
		3	99.54	99.54
	3	1	98.69	97.94
		2	99.13	99.13
		3	100.00	100.00
	4	1	29.27	74.69
		2	97.99	77.25
		3	98.86	76.87
3	1	1	90.28	92.13
		2	94.45	98.61
		3	99.08	99.08
	2	1	95.47	97.22
		2	97.22	98.99
		3	98.74	99.50
	3	1	99.43	99.62
		2	99.81	99.81
		3	100.00	100.00
	4	1	40.18	81.47
		2	94.73	82.23
		3	98.71	85.63

Table 2 shows similar results, except that different organisms are sensitive to a different degree to the action of H_2O_2. Thus *Bacillus typhosus* seems somewhat more sensitive than *B. prodigiosus*, and *B. prodigiosus* somewhat more than *B. coli*. The differences, however, are slight and may come within the range of experimental error. In this series again 0.09 parts of H_2O_2 are sufficient, after six hours, if the preparation is fresh. After twenty-four hours 0.045 parts are sufficient. Preparation 4 shows more efficiency on bacterial suspensions than on tap-water.

Table 4 shows the effect of H_2O_2 on market-milk. Since milk contains a large amount of oxidizable material it is necessary to use larger amounts of H_2O_2. Probably the enzymes contained in market-milk are important factors in decompesing H_2O_2. We find here that after six hours only Flask 3 showed sufficient bactericidal efficiency, although not uniformly so. After twenty-four hours the efficiency is greater. In Sample 2, Experiments 1 and 2, the numbers of bacteria in the milk examined were exceedingly small, so that the percentage of efficiency would naturally be somewhat lower than in milks with high bacterial counts. It is of particular interest in this and the following series, that the magnesium peroxid tablets showed no germicidal efficiency whatever. Magnesium peroxid is insoluble, and the evolution of H_2O_2 is probably so slow that enzymes and organic substances absorb the H_2O_2 before germicidal effect on bacteria can take place.

In Table 4 the results of action of H_2O_2 on bacterial suspensions in milk are shown. On the whole, the germicidal efficiency is somewhat greater than in raw milk; 0.36 parts H_2O_2 per thousand seem to be sufficient after six hours.

TABLE 2.—THE GERMICIDAL EFFICIENCY OF COMMERCIAL PREPARATIONS OF H_2O_2 ON SUSPENSIONS OF BACTERIA IN STERILE WATER (AVERAGE OF TWO EXPERIMENTS)

Organism	Preparation	Flask	Efficiency: After 6 Hrs. Per Cent.	Efficiency: After 24 Hrs. Per Cent.
B. typhosus	1	1 2 3	68.50 86.52 97.75	99.99 100.00 100.00
	2	1 2 3	99.67 99.96 99.97	99.78 99.97 100.00
	3	1 2 3	95.45 99.94 99.99	99.99 99.98 100.00
	4	1 2 3	99.32 99.83 99.99	99.98 99.99 100.00
B. coli	1	1 2 3	97.33 97.80 99.25	99.35 99.47 99.58
	2	1 2 3	99.91 99.95 99.97	99.88 99.94 99.96
	3	1 2 3	76.14 97.35 99.88	99.58 100.00 100.00
	4	1 2 3	96.21 96.29 95.95	99.99 99.99 99.99
B. prodigiosus	1	1 2 3	98.90 99.43 99.79	99.96 99.97 99.99
	2	1 2 3	99.45 99.85 99.86	99.94 99.96 100.00
	3	1 2 3	78.83 98.03 99.84	99.83 99.99 100.00
	4	1 2 3	99.28 99.59 99.78	99.69 99.85 99.99

The tables show that Preparations 2 and 3 were slightly more efficient than Preparation 1. This may be accounted for by the fact, stated before, that Preparations 2 and 3 were obtained direct from the manufacturers, while Preparation 1 was purchased from dealers. This supposition is borne out by a series of experiments made with Preparation 1 after having been kept in the ice-chest. After six, seven and eleven days the germicidal efficiency was but slightly impaired, but after fourteen days there was considerable deterioration, after twenty-one days still more deterioration, and after thirty-five days the efficiency of 0.36 parts H_2O_2 per thousand after six hours was 29 per cent.; of 0.72 parts H_2O_2 67 per cent., and of 1.44 parts H_2O_2 81.5 per cent. After twenty-four hours' activity there was an increase of bacteria, showing that all H_2O_2 had been decomposed before the elapse of twenty-four hours.

There is, on the whole, more variation in the efficiency of Preparation 1 than in the efficiency of Preparations 2 and 3. This may, of course, also be due to the conditions under which Preparation 1 had been kept by dealers, so that partial deterioration had taken place previous to purchase for these experiments.

SUMMARY

Hydrogen petoxid has considerable value as a germicide for two reasons: First, the enormous reduction of numbers of bacteria, and second, the harmlessness of the decomposition products. Suspensions of *B. typhosus*, *B. coli* and *B. prodigiosus* are very sensitive to the action of H_2O_2 in quantities corresponding to 3, 6 and 12 teaspoonfuls of a 3 per cent. solution of H_2O_2, and to 2, 4 and 8 teaspoonfuls of a 4.5 per cent. solution of H_2O_2 per quart of milk. Suspensions of the same bacteria in sterile water are sensitive to the action of H_2O_2 solutions in quantities corresponding to 3 and 6 teaspoonfuls of a 3 per cent. solution of H_2O_2, and to 2 and 4 teaspoonfuls of a 4.5 per cent. solution of H_2O_2 per gallon of water; these results are accomplished in six hours. Complete destruction is accomplished rarely, however, and cannot be depended on.

TABLE 3.—THE GERMICIDAL EFFICIENCY OF COMMERCIAL PREPARATIONS OF H_2O_2 ON MARKET-MILK

Sample No.	Preparation	Flask	Efficiency: After 6 Hrs. Per Cent.	Efficiency: After 24 Hrs. Per Cent.
1	1	1 2 3	96.69 99.84 99.99	99.95 99.97 99.99
	2	1 2 3	96.98 97.67 99.78	99.95 99.96 99.99
	3	1 2 3	91.33 96.63 99.93	98.40 99.78 100.00
	4	1 2 3	6 fold inc. 6 fold inc. 5.5 fold inc.	Too many to count
2	1	1 2 3	73.42 97.28 97.48	44.62 98.25 98.82
	2	1 2 3	86.27 88.24 96.08	96.71 98.03 98.73
	3	1 2 3	97.04 99.70 99.92	99.92 99.96 99.96
	4	1 2 3	3.9 fold inc 4 fold inc. 4 fold inc.	Too many to count
3	1	1 2 3	99.92 99.99 100.00	41.64 96.64 100.00
	2	1 2 3	96.84 97.81 99.36	99.69 99.73 99.79
	3	1 2 3	89.30 97.61 99.97	96.76 99.31 99.99
	4	1 2 3	5.2 fold inc. 5 fold inc. 5.4 fold inc.	Too many to count

In drinking-water an amount of H_2O_2 corresponding to 3 teaspoonfuls of a 3 per cent. solution and to 2 teaspoonfuls of a 4.5 per cent. solution per gallon are sufficient to destroy 99 per cent. or more of all bacteria in six hours. In market-milk an amount of H_2O_2 corresponding to 6 teaspoonfuls of a 3 per cent. solution and to 4 teaspoonfuls of a 4.5 per cent solution per quart are sufficient to destroy 99 per cent. or more bacteria. The preparations must be fresh, however, in order to accomplish these results. In milk as in water, complete sterility is rarely accomplished by the quantities mentioned, and would require relatively large amounts.

Commercial preparations of hydrogen peroxid are often not uniform in composition. This depends on the age of the preparation, the temperature at which the preparation has been kept, and on the presence of foreign substances, such as acids, acetanilid, barium salts, etc. It is not safe, therefore, to depend on the germicidal activity of commercial solutions, unless the composition at the time of use is known. Magnesium peroxid tablets, although probably more stable than solutions of H_2O_2, are not soluble and must be pulverized before adding to the substance to be treated. Even then, the evolution of H_2O_2 seems to be gradual and irregular, so that germicidal activity cannot be depended on. The temperature at which action is to take place must be high enough to insure germicidal activity. Ordinary room temperature is favorable, higher temperature up to 52 C. (125.6 F.) is to be preferred, but milk and water must be cooled after the close of the period of action in order to render them palatable and to prevent multiplication of the bacteria remaining.

TABLE 4.—THE GERMICIDAL EFFICIENCY OF COMMERCIAL PREPARATIONS OF H_2O_2 ON SUSPENSIONS OF BACTERIA IN STERILE MILK (AVERAGE OF TWO EXPERIMENTS)

Organism	Preparation	Flask	Efficiency	
			After 6 Hrs. Per Cent.	After 24 Hrs. Per Cent.
B. typhosus	1	1	99.88	99.97
		2	99.93	99.98
		3	99.99	99.99
	2	1	99.95	99.98
		2	99.97	100.00
		3	99.99	100.00
	3	1	99.95	99.98
		2	99.98	99.99
		3	100.00	100.00
	4	1	1.7 fold inc.	1.1 fold inc.
		2	1.6 fold inc.	3.8 effic.
		3	1.4 fold inc.	15 effic.
B. coli	1	1	99.18	99.39
		2	99.89	99.78
		3	99.95	99.90
	2	1	99.88	99.86
		2	99.96	99.96
		3	99.98	99.98
	3	1	99.77	99.81
		2	99.93	99.99
		3	99.99	100.00
	4	1	4.4 fold inc.	Too many to count
		2	4.5 fold inc.	
		3	4.2 fold inc.	
B. prodigiosus	1	1	99.16	99.26
		2	99.25	99.49
		3	99.33	99.77
	2	1	95.97	99.68
		2	99.42	99.93
		3	99.81	100.00
	3	1	99.94	99.99
		2	99.99	99.99
		3	100.00	100.00
	4	1	3.2 fold inc.	Too many to count
		2	2.8 fold inc.	
		3	3.1 fold inc.	

For practical application in rendering water and milk safe, hydrogen peroxid solutions can at best be considered only emergency measures. Expense, uncertainty of composition and its possible influence on organic constituents and enzymes are complicating factors. The use of hydrogen peroxid solutions can be recommended only if pure solutions are available, but this procedure can never take the place of efficient water filtration or efficient pasteurization of milk.

A METHOD OF PERFORMING EXTERNAL URETHROTOMY IN IMPASSABLE STRICTURE*

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The difficulties which have surrounded external urethrotomy have been only partially overcome by the later day operations. Young's method is by far the most practical procedure yet devised. In this operation the urethra is opened in the prostatic portion posterior to the stricture. At this point the urethra is easily located, as it is here dilated. Young's own description is quoted:

> The vertex of the prostate was then exposed as in the operation for perineal prostatectomy, after carefully dividing the central tendon and recto-urethralis muscle. By means of blunt dissection the membranous urethra and the anterior third of the prostate were exposed, the wound being held open by posterior and lateral retractors. A median incision was then made into the membranous urethra and the anterior portion of the prostatic urethra. It was found best to carry the incision back into the posterior urethra, because without a guide in the membranous urethra it was found somewhat difficult to find the lumen. In the prostatic urethra, the walls being more rigid, it is much less difficult to find the urethral lumen. The edges of the urethral mucous membrane were then picked up with artery forceps and a fairly large sound passed forward through the membranous urethra, and free communication between the two portions of the urethra, anterior and posterior to the stricture, was established. After the excision of the cicatricial tissue, the incision in the prostatic and membranous urethra was completely closed with three interrupted sutures of fine catgut on a large retained catheter, which emerged from the bulbous urethrotomy wound.

While external urethrotomy with a guide is a comparatively simple procedure, all surgeons of experience are agreed that external urethrotomy without a guide may in some cases be an extremely formidable operation. Few surgeons who have dealt extensively with this type of case have not been forced, after fruitlessly searching for the urethral canal, to resort to a suprapubic retrograde catheterization. While Young's procedure would obviate the necessity of a suprapubic operation, it may not always be possible to follow exactly the thread-like, tortuous urethral canal through its bed of scar tissue. It was on account of this difficulty that the following method was devised and recently used in a small series of cases in the Genito-Urinary Clinic of the Johns Hopkins Hospital.

METHOD

It has been demonstrated that a solution of methylene blue when injected into the urethra will permeate and stain the canal in such a manner that it can be followed throughout its entire course. A solution of 1 gm. medicinal methylene blue to 200 c.c. of distilled water is in general the proper dilution. Stronger solutions tend to cloud the field of operation when the urethra is incised, and weaker solutions do not sufficiently stain the urethral mucous membrane. The stain is injected with an ordinary urethral syringe previous to operation.

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*From the Genito-Urinary Clinic of Johns Hopkins Hospital.

The method of injection requires some attention, on account of certain anatomic peculiarities found in strictures. Not only is there a pouch or dilatation behind, but occasionally there is one also in front; this is due to the shoving forward of the strictured portion of the urethra by the pressure of urine from behind. Aside from this, the urethra is often distorted, so that there may be a pouch on one side of the anterior opening of the strictured urethra. In other words, the opening of the stricture is often anterior to a pouch, or placed higher up in the canal.

The injection should at first be made with little force, for should the fluid suddenly be forced in under pressure, it might dilate a pouch sufficiently to obstruct the canal and thus prevent the passage of the staining solution through the strictured urethra. After the injection has been made with moderate pressure, more force should be used. In all cases the penis should be elevated to facilitate the injection.

The urethra having been injected and the stain allowed to remain in for about five minutes, it should be washed out with sterile water. A sound is then passed through the anterior meatus as far as possible and an incision made directly down on it in the midline of the perineum. The urethra is then laid open and retracted by means of silk sutures. The further course of the canal is easily seen as a dark-blue passage. A grooved director may then be passed along the course of the canal as indicated by the blue stain, and the incision continued along it, but it is often easier simply to follow the canal with a pair of scissors. The staining makes it easy to see false passages branching out from the true canal. On account of the subsequent dilatation which must be carried out after the operation in any form of stricture, it is believed that it is well to close the false passages by removing the mucous membrane and uniting the tissues about them. Having laid out the course of the urethra, the scar tissue on each side is excised and the urethra thus rendered mobile. In a good many cases it will be found that the tortuous urethra, when freed and brought into the midline, will easily cover a large sound. This is due to the true shortening of the canal. A catheter is then passed into the bladder through the penis and the mucous membrane sutured about it. A small drain is next passed down to the urethra and the external wound closed with a few sutures.

In dealing with cases of obliteration of the urethral canal, where one or more fistulas are present, it has been my custom to inject the anterior urethra and the fistulas. A sound is then passed and incised on, the stain rendering it easy to trace the anterior urethra as far as the point of obliteration. Similarly by following the fistulous tract (stained blue by the injection), the urethra posterior to the stricture can be found and followed anteriorly to the point of obliteration. The intervening scar tissue may be excised with the assurance that there is no intervening canal, and the two ends of the urethra be then connected.

REPORTS OF CASES

The following cases are briefly reported to illustrate the above method:

Case 1.—R. M. (Surgical No. 30,155), was admitted June 27, 1912, complaining of stricture. He contracted gonorrhea in 1880. A few years later he noticed difficulty in urinating. In 1896 he was operated on for stricture with complete relief until 1907, when he again commenced to have difficulty in voiding urine. In 1910, he had complete retention, which was relieved by the passage of sounds. Since then difficulty in urinating and marked frequency have been evident. One week before admission a swelling appeared in the perineum. This became tender, extremely painful and in a few days ruptured. Since then, urine has been passed through the perineum.

Examination.—Well-nourished man. Perineal fistula with marked induration about it. One stricture (which allowed a filiform to pass), about 3 cm. from the meatus, another impassable one at about the bulbomembranous junction.

Operation.—External urethrotomy was performed by Dr. Geraghty, July 10, 1912. Repeated attempts to pass a filiform under anesthetic were unsuccessful. A solution of methylene blue was injected into the perineal fistula and the urethra was injected by way of the meatus. A grooved director was then passed through the fistulous opening and the tissues excised about it down to the urethra. At first sight it was impossible to make out any extension of the urethra posteriorly, but on opening it anteriorly, a small, darkly stained passage was seen, leading backward and to the left. This was laid open and followed, only to end blindly. Closer inspection along the exposed mucous membrane showed another stained passage, leading externally to the one which had been followed. This was laid open and found to be the true urethra. Instruments were then passed anteriorly in the pendulous urethra from behind, until the stricture there was dilated. A catheter was inserted in the whole length of the canal and the urethra sutured about it. A small perineal drain was then inserted. The patient made an uneventful recovery.

This case is of interest in showing the great benefit to be derived from staining the strictured urethra. In the first place, it was impossible to pass any sort of a guide. Further, it is believed that without the stain one of the false passages would almost surely have been made to connect with the bladder.

Case 2.—M. C. (Surgical No. 31,039), was admitted Dec. 5, 1912, complaining of stricture. He had contracted gonorrhea thirty-nine and again thirty-two years previously. His present illness which began with difficulty in voiding urine was of about twenty years' duration. About eighteen years ago he had complete retention and was catheterized with great difficulty. Since then, at varying intervals, he had passed sounds on himself. He had marked frequency of urination.

Examination.—Well-nourished man, with impassable stricture in the bulbomembranous portion of the urethra.

Operation.—External urethrotomy was performed by Dr. Young, Dec. 5, 1912. Under an anesthetic, attempts to pass any kind of an instrument were unsuccessful. The urethra was injected with an aqueous solution of methylene blue, the patient put in the lithotomy position and a sound passed to the membranous urethra. An incision was then made in the midline of the perineum to the tip of the sound. On examination of the exposed urethra, a minute opening was seen, leading posteriorly through a dense bed of scar tissue. The urethra was stained deep blue, so that it could be easily followed with a knife and the bladder entered. A catheter was then passed through the meatus, and the urethra closed about it with chromic-gut sutures. The perineal wound was closed with chromic gut and a small drain inserted.

This case is of interest in showing how easily the very minute urethral opening could be followed without the aid of a guide.

Case 3.—A. S. (Surgical No. 31,186), was admitted Dec. 25, 1912, complaining of stricture. He had contracted gonorrhea twenty-six years previously. Five years later he noticed difficulty in urinating. Three years before admission he had complete retention and had to be catheterized. During the past year, he had not had complete retention, although urination had been extremely difficult. For twelve years urine had been cloudy. On admission the patient constantly dribbled and every ten or fifteen minutes after severe straining, would pass a few cubic centimeters of cloudy urine.

Examination.—This showed a poorly-nourished man. Rectal examination evidenced no outspoken enlargement of the prostate. Attempts to pass a catheter were unsuccessful. The catheter first met obstruction about 4 cm. from the meatus, but this could be passed and complete obstruction was encountered at the bulbomembranous portion of the urethra. Attempts were made to pass a filiform, but unsuccessfully. Following instrumentation, the temperature rose to 104, and patient had a severe chill. On the following day, another attempt was made to pass a filiform, but with no better result.

Operation.—External urethrotomy, Dec. 27, 1912. Under an anesthetic an unsuccessful attempt was made to pass a filiform. The urethra was then injected with a solution of methylene blue, the patient placed in the lithotomy position, and a sound passed to the bulbomembranous portion of the urethra. A midline incision was then made in the perineum just back of the bulb and the tip of the sound incised on. The urethra was found to be stained but when the attempt was made to trace it, it was found that the sound was in a false passage, to the right of the true passage, which was easily located, leading off from the urethra about 1 cm. above the tip of the sound. The minute blue-stained urethra then led through a dense mass of scar tissue, which was laid open and a gush of blue-stained urine showed that the stricture had been incised. The stricture in the pendulous portion of the urethra was then dilated with a sound, the scar tissue about the urethra excised and a catheter passed through the meatus. The urethra was sutured about this and a small drain inserted. This patient made an uneventful recovery.

This case is instructive. One might easily be misled in incising in the midline of the perineum directly from the tip of a sound; in this case the small strictured urethra would certainly have been missed.

The advantages of staining the urethra in impassable stricture may be summed up as follows: It allows one to follow the canal into the bladder It utilizes the mucosa of the urethral canal. It allows the recognition of false passages, and renders, in many instances, what may be a most difficult operation a comparatively simple one.

ACUTE RHEUMATIC ORCHITIS

REPORT OF A CASE ASSOCIATED WITH ERYTHEMA NODOSUM AND ACUTE TORTICOLLIS IN A CHILD AGED TWO AND ONE-HALF YEARS

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Acute so-called metastatic orchitis is more or less uncommon at any age, but in infancy or early childhood is of extreme rarity. The case described below in which such an inflammation of the testis occurred in a child aged 2½ years is therefore sufficiently unusual to warrant a detailed report.

Patient.—Harry G., 2½ years old, of Russian parentage, was brought to Mount Sinai Hospital dispensary on Jan. 4, 1913. He is the older of two children. Parents are healthy; there is no history of tuberculosis in the family.

Past History.—Breast-fed eleven months. At 20 months, measles complicated by pneumonia. Good recovery. At age of 2 years, acute swelling below the left ear, accompanied by malaise and fever; diagnosticated by a physician as mumps. Good recovery and no sequelae. Three weeks ago acute pustular eczema on the buttocks; lesions rapidly healing.

Present Illness.—This began one week before admission with malaise and fever. The child was cross and fretful and refused to eat; vomited twice. Bowels were regular; there was no cough. The day before admission the mother noticed that the child's neck was stiff and that he cried whenever she picked him up.

Physical Examination.—Well-developed child. Face flushed and eyelids somewhat puffy. Very irritable; screams when an attempt is made to hold him. Head held rigidly with the face turned toward the left shoulder; attempts at rotation evidently attended with much pain. Cervical lymph-nodes palpable as pea-sized nodules on both sides of the neck. Other superficial lymph-nodes not enlarged.

Skin: Over the buttocks and the upper part of the thighs there is an eruption of papular eczema, most of the lesions of which are in the process of healing. On the left leg over the shin there is an eruption consisting of several indurated nodules each about the size of a dime. The skin over these is bluish-red in color and distinctly hot.

Throat: Deeply congested, but shows no enlargement of the tonsils nor any exudate.

Teeth and gums: Negative.

Heart, lungs and abdominal viscera: Apparently normal.

Temperature: 102.5 F.

Urine: Except for a very faint trace of albumin, negative.

Diagnosis.—Acute pharyngitis, left-sided rheumatic torticollis, erythema nodosum. Old pustular eczema.

Treatment.—Two grains of aspirin four times a day was ordered and methyl salicylate was applied over the left leg.

January 7: Child appears improved. Temperature 100. Torticollis has disappeared. Pharynx less congested. A new crop of erythema nodosum has appeared over the right shin. Treatment to be continued.

January 9: The mother states that a day ago the child began to complain of pain about the genitals and that since twelve hours the scrotum has become swollen. No history of trauma. Examination shows the scrotum enlarged to twice its normal size. Marked local heat. Skin of scrotum edematous and dusky in color. Left testicle is felt enlarged to about the size of a hickory-nut; exquisitely tender. Right testis normal. Apparently no hydrocele is present. No urethral discharge. Temperature 100. Child looks sick. No evidence of torticollis. Parotid glands apparently perfectly normal. A few new efflorescences of erythema nodosum are present on both thighs. Salicylate treatment to be continued, and ice-bag to be applied to the scrotum.

January 10: General condition of child improved. Appetite returning. Temperature 99.4. The skin of the scrotum is less edematous and the testis can be distinctly felt. The body of the testis is especially involved; the epididymis to a less degree. A blood examination on this day gave the following result: Hemoglobin 85 per cent. Red blood-cells 4,568,000. White cells 11,000. Differential count; polynuclear neutrophils 57.5 per cent.; large lymphocytes 8.5 per cent.; small lymphocytes 33.5 per cent.; eosinophils 0.5 per cent. Urine: clear, acid, specific gravity 1.010. Very faint trace of albumin. Microscope shows an occasional pus cell; no casts.

January 11: Condition improving.

January 14 to 25: Child's condition good. The testicle gradually returning to normal size, the epididymis being the last portion to be involved. Temperature has remained normal.

January 25: Discharged cured.

February 18: Child well. No atrophy of testis. Von Pirquet test positive.

To sum up, then, we have here a child who in the course of an attack of erythema nodosum and a torticollis, develops a unilateral acute orchitis, which after two weeks goes on to complete recovery.

LITERATURE OF THE SUBJECT

Acute metastatic orchitis has been described as occurring in a number of diseases, among which may be mentioned mumps, variola, angina, influenza, pneumonia, typhoid, paratyphoid, malaria, scarlet fever, pyemia and rheumatism.

The orchitis of mumps is probably the variety most often seen, though in young children it is unusual. It is most frequent in young adults and when it occurs in childhood is usually found in individuals approaching the age of puberty. The statistics given by Hutinel and Darré[1] are of interest in this connection: Barthez and Sanné noted in 230 cases of mumps ten cases of orchitis of which seven were in boys between the ages of 15 and 17. Rilliet, Henoch and Comby never observed a patient under 14 years of age. Steiner has seen a case in a nurseling whose parents were suffering from mumps; and two other patients, aged 4 and 9 years respectively, are reported by French physicians. The testicle may be the first and at times the only seat of the disease, the parotid not being involved, as in a case reported by Beardsley[2] in which the brother of a child ill with parotitis developed an acute orchitis. The orchitis of mumps usually lasts from eight to ten days and may be followed by atrophy of the testicle.

The connection between rheumatism and acute orchitis has long been noted, though reports of cases are very infrequently found. On this subject Roderick Macleod,[3] writing in 1842, says:

> I think I have several times seen rheumatism of the tunica albuginea testis. Persons subject to rheumatism have complained of acute pain coming on suddenly accompanied by increased heat and by great tenderness to the touch, but without tumefaction: the symptoms shifting from one testis to the other and at last disappearing as suddenly as they had come on—just in the manner we see rheumatism change from one joint to another.

Cheadle[4] fails to mention orchitis, and numerous text-books on genito-urinary diseases, both in English and in German, devote but little space to the subject. It is chiefly to French clinicians that we are indebted for drawing attention to this form of orchitis. Besnier[5] describes the condition in detail and numerous French theses have been written on the subject.[6] Testicular inflammation may precede or accompany an attack of acute articular rheumatism and the characteristics of the orchitis are the same as of that occurring in mumps. Usually it is a simple inflammation, bilateral or involving first one side then the other; its duration is usually not beyond that of the arthritic symptoms, but in rare cases it may go on to atrophy. Several of the cases described were complicated by hydrocele.

Closely related to this variety of orchitis is that seen as a complication of tonsillitis, of which cases are occasionally reported.[7] Teysseyre[8] has described a case in a man 26 years old, and has collected reports of nine other cases from the literature, all of them occurring in adults. Clinically this variety resembles rheumatic orchitis, being usually unilateral, coming on suddenly, lasting five to fourteen days and rarely going on to atrophy or suppuration. Hutinel and Nobécourt[1] comment on the rarity of this complication of sore throat in children, pointing out that here, as in the other types mentioned above, the testis seems much more vulnerable after it has taken on full functional activity.

Finally may be mentioned that a few cases of acute orchitis in children have been reported as a complication of influenza.[9]

The most logical diagnosis of the case above reported appears to be that the whole syndrome is a manifestation of rheumatism. The symptoms can certainly all be explained as the result of some acute infectious agent entering most probably by way of the pharyngeal mucosa or the tonsil, affecting the neck muscles and thus causing a torticollis, giving rise to toxic manifestations in the skin in the form of a nodular erythema and finally localizing in the testis and there producing a sudden acute orchitis. Since each of these four conditions—pharyngitis, torticollis, erythema nodosum and orchitis—has been described as a manifestation of acute rheumatism, it appears the correct diagnosis in this case in spite of the fact that the patient was but 2½ years of age. Rheumatism in early childhood is a very uncommon condition, but undoubted cases have been recorded even in infants under one year of age. It is well known that in children of any age the articular symptoms are the least prominent of the various rheumatic manifestations and this is particularly true of young children and infants. Two cases of torticollis, however, which lasted but a few days and cleared up on the administration of salicylates, have been reported by Wachenheim[10] in babies aged, respectively, 14 and 16 months, and arthritis, though acknowledged to be very rare, has been described as occurring even in early infancy. Thus Miller,[11] in 1899, collected reports of nineteen cases of acute articular rheumatism in infants under one year, while Schlossman,[12] in 1903, reported several others in very young children.

The classification of erythema nodosum as a rheumatic affection may be questioned by some, since many clinicians now believe that erythema nodosum should be looked upon as a separate clinical entity akin to the eruptive fevers, Abt.[13] But as the eruption has been described as occurring in the course of various infectious diseases as diphtheria, typhoid, streptococcemia, scarlet fever, rheumatic fever and tuberculosis, there is still considerable support for the theory that the eruption is merely a local manifestation of some general intoxication.

The fact that the child showed a positive reaction to the von Pirquet test is also of interest in view of the fact that a very close relation is supposed by some to exist between erythema nodosum and tuberculosis.[14] From the clinical course of this illness and the complete recovery, however, there does not seem to be any reason to suppose that tuberculosis infection was a factor in its etiology.

Testicular mumps may be excluded by the following: the patient's parotid glands were normal throughout the illness; the child was constantly with a brother, who at no time showed any symptoms of mumps, and finally there is a clear history of an attack of mumps in the patient seven months previous to the beginning of this illness.

54 West Ninety-First Street.

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[1] Hutinel: Les Maladies des Enfants, Paris, 1909.

[2] Beardsley, J. G.: New York Med. Jour., Jan. 25, 1908.

[3] Macleod, Roderick: Rheumatism and its Various Manifestations, London, 1842, p. 20.

[4] Cheadle: Article on rheumatism in Albutt's System of Medicine, ii, Part 1, p. 645.

[5] Besnier: Dictionaire et Encyclopédie des Sciences Médicales, 1877, iv, Series 3, p. 606.

[6] Reulos, A.: Contribution à l'étude de l'orchite rhumatismal, Paris thesis, 1904. Bach, J.: Essai sur l'orchite parotidienne et rhumatismal, Paris thesis, 1871. Delefosse: Ann. d. mal. des organes génito-urinaires, 1894, xii, 306.

[7] Prouty, I. H.: Orchitis Secondary to Tonsillitis Treatment with Hexamethylenamin, THE JOURNAL A. M. A., April 20, 1912, p. 1192.

[8] Teysseyre, A.: Manifestations testiculaires dans les amygdalites aiguës, Paris thesis, 1900.

[9] Barnes, E. C.: Brit. Med. Jour., March 15, 1890. Flessinger De l'orchite grippale, Gaz. méd. de Paris, Feb. 4, 1893.

[10] Wachenheim, F. L.: Rheumatic Affections in Children, Arch. of Pediat., September, 1908.

[11] Miller, D. J. Milton: Acute Articular Rheumatism in Infants under One Year, Arch. of Pediat., September, 1899.

[12] Schlossman: Ueber Akuten Gelenkrheumatismus und symptomatisch ähnliche Erkrankungen im frühen Kindesalter Monatschr. f. Kinderh., February, 1902.

[13] Abt, Isaac A.: Erythema Nodosum, THE JOURNAL A. M. A., Nov. 12, 1904, p. 1454.

[14] Meara and Goodridge: The Relationship Between Erythema Nodosum and Tuberculosis, Am. Jour. Med. Sci., March, 1912.

April 27, with typical complete paralysis. The pathologic findings (see appended report, Dr. H. C. Low) were typical of anterior poliomyelitis. This case seems to us of special interest; first, as demonstrating the long period during which the virus was undoubtedly harbored in the nasopharynx; secondly, a human infection (his sister) occurring two years after his primary attack during what seemed like an exacerbation of his former attack; and, thirdly, the recovery of the virus from his nasal secretions four months after his second attack and two years and three months after his first attack; fourthly, the fact that the successful inoculations were done with filtrates from straight nasal secretions, not from washings.

PATHOLOGIC REPORT BY DR. H. C. LOW

Monkey 159.—Sections of the cord in the lumbar and cervical regions show moderate injection of the blood-vessels and some small round-cell infiltration about them. Changes are not marked but are consistent with the diagnosis of poliomyelitis.

Monkey 161.—Sections of the lumbar, dorsal and cervical regions show marked round-cell infiltration about the blood-vessels and in the perivascular spaces, more evident near the central canal and the anterior horns. Changes are typical of poliomyelitis.

374 Marlborough Street—372 Marlborough Street.

THE MODE OF TRANSMISSION OF POLIOMYELITIS

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From a practical point of view the mode of transmission is the most useful single factor in combating a disease. The health officer would prefer to know the precise mode or modes of transmission of any disease rather than its cause, or pathologic anatomy, or even its treatment. Hence a large amount of work has been done to determine how the virus of poliomyelitis leaves the body, how it enters its victim, and the route it takes from one person to the next. Despite all the thought and work that has been focused on this problem, the mode of transmission of poliomyelitis remains an open chapter, and although much light has been thrown on the subject, the present state of our knowledge does not permit of dogmatic, much less final statements.

There are two avenues of approach to a problem of this sort; one, through epidemiologic field studies, and the other through laboratory research work. Both these trails have been blazed. Much of the epidemiologic work has given conflicting results, and much of the laboratory work has likewise been confusing. The evidence obtained from the field and that from the laboratory, however, do not have an equal standing before the court. The fallibility of epidemiologic evidence has long been recognized. Sanitarians who have had a long experience know full well that it has always been necessary to revise the chapter on the epidemiology of a disease as soon as its mode of transference is discovered. All those who have collected field data are fully aware of the pitfalls. Errors are unavoidable from the very nature of the circumstances; the personal equation and also the limitations of the investigator often warp or dwarf the important facts. In any event, the enormous mass of data collected by careful investigators in the field is perplexing and difficult to analyze. Even if the epidemiologist has the detective instinct of a Sherlock Holmes, and the statistical genius of a Karl Pearson, he may be wholly carried off the track by the missed cases, and by the carriers, or by an incomplete knowledge of unusual forms of the disease, or by unknown factors in its etiology. On the other hand, the exact observations from the laboratory often throw a flood of light on our field work, and when the two are correlated we have real and useful additions to our knowledge.

There are many theories to account for the spread of poliomyelitis. The chief ones may be summarized under four headings: (1) that it is a "contagious" disease, communicated directly from person to person through the secretions from the mouth and nose; (2) that it is an insect-borne disease; (3) that it is conveyed through dust; (4) that it is an alimentary infection, the virus being taken in with food and drink and absorbed from the digestive tube. There is evidence from the field and from the laboratory to support each one of these theories. These four theories, however, do not include all the views brought forward to explain the mode of transmission of infantile paralysis. For example, the hypothesis has been expressed that the disease is transmitted to man from lower animals, particularly domesticated animals, but there has been no convincing demonstration that the infection occurs naturally in any other animal than man.

In view of the uncertainty concerning the mode of transmission of poliomyelitis it is worth while to take stock of our knowledge of this subject. I have therefore briefly summarized the evidence pro and con.

That anterior poliomyelitis may be a contagious disease was first announced by Wickman of Sweden, whose epidemiologic investigations upon the subject are now classic. Wickman formulated a new symptomatology; his greatest contribution to the subject was perhaps the discovery that abortive cases of the disease occur. These mild, and hitherto unrecognized clinical forms, shed an entirely different light on the epidemiology. Wickman brought forward strong evidence in support of the view that the disease was transmitted directly from person to person, especially through the abortive or missed cases, as well as through suspected carriers.

The theory that infantile paralysis is a "contagious" disease was the first, and is the most natural explanation to account for its spread. In many respects infantile paralysis resembles epidemic cerebrospinal meningitis, with which disease it is, in fact, sometimes confused. Flexner has emphasized the resemblance between the two infections, and has been an able and valiant champion of the view that the virus in both these diseases leaves the body in the secretions from the mouth and nose and enters the victim through the same channel. Corroboration of this view has come especially through the work of the Swedish investigators, Kling, Pettersson and Wernstedt, who claim to have demonstrated the virus in the secretions from the nose and throat, not only in cases during the acute stage, but also during various stages of convalescence, and even in healthy carriers. Furthermore, Osgood and Lucas demonstrated the virus in the mucous membrane of a monkey five and a half months after recovery from the experimental disease and recently they recovered it from a chronic carrier in man. Kling claims to have found the virus in the nasopharynx up to seven months in a few human cases. Finally, it is possible to infect monkeys simply by placing the virus on the uninjured mucous membrane of the nose and throat. The evidence, therefore, that we are dealing with an infection that leaves the body in the secretions from the nose and throat, and enters by the same channel, is strong, both from epidemiologic studies and from laboratory investigations. That this evidence, however, is not conclusive, may be gleaned by a little closer consideration of the facts.

It is important, first of all, to remember that we have no clear-cut criterion by which to judge what is and what is not anterior poliomyelitis. When the symptoms are characteristic and the lesions typical we are justified in making a definite diagnosis. In any critical case, however, further corroboration must be had by transferring the virus from monkey to monkey in order to demonstrate that we are, in fact, dealing with a communicable infection capable of reproducing itself. When we apply this criterion to some of the work that has been reported, to support the view that infantile paralysis is a "contagious" disease, we find the evidence not as strong as the conclusions of the experimenters would lead us to suspect. The mere fact that an animal has an acute paralytic affection, associated with perivascular infiltrations, degeneration of the neurons, and occasional hemorrhages into the cord, is not enough, in the present state of our knowledge, to justify us in labeling it poliomyelitis. The criterion in critical cases must be the power of the virus to reproduce itself and repeat the symptoms and lesions of the infection through succeeding generations.

There has been a long series of negative results in attempts to demonstrate the presence of the virus in the secretions from the mouth and nose. Strauss, Rosenau, Sheppard and Amoss, Flexner, and also Anderson and others, have all reported failures in this regard. These negative results have a certain degree of positive significance, for if the usual means of transmission of the disease is through the secretions from the mouth and nose we should not have such great difficulty in demonstrating its presence in these secretions. Only Kling,[1] Pettersson and Wernstedt have found it comparatively easy to make this demonstration. These investigators believe that they have established the important fact that carriers occur, and are several times more numerous than the frank and abortive cases of poliomyelitis combined. Yet Flexner, Clark and Frazer report only one positive result out of numerous trials. They succeeded in demonstrating the virus of poliomyelitis in the washings from the nasopharynges of the parents of a child suffering with poliomyelitis. The parents, however, showed no symptoms of illness.

The virus of anterior poliomyelitis is widely diffused throughout the body. It has been found in greatest virulence and concentration in the spinal cord of infected persons and animals. The virus is also quite constantly present in the brain and other organs and tissues as, for instance, the mucous membrane of the nose and pharynx, the mesenteric glands, the axillary and inguinal lymph-nodes, and even in the blood and the cerebrospinal fluid. Recently the virus has been demonstrated in the mucosa of the intestinal tract, and finally in the feces. It is therefore no surprise that a virus with such a wide distribution and so generally diffused throughout the body may occasionally be found in the secretions from the nose and throat. These facts make us hesitate to conclude that infantile paralysis must be a contagious disease, simply because it has been demonstrated experimentally that the virus may be found occasionally in the secretions from the nose and throat; it would be just as logical to conclude that the disease in its spread resembles typhoid fever because the virus has been demonstrated in the mucous membrane of the digestive tube and has also been found in discharges from the intestines.

There are other difficulties which must be met before we can accept as a proved fact that infantile paralysis is a contagious disease. Careful and masterly epidemiologic investigations of poliomyelitis have been conducted by the Massachusetts State Board of Health extending over a period of five years. The results of these studies were summarized by Dr. Mark W. Richardson, who plainly brought out the fact that the disease, as observed in Massachusetts, does not have the earmarks of a contagious disease. The disease prevails in rural rather than under urban conditions. In fact it shows little tendency to invade cities, and when it does enter the city, it does not strike the crowded, congested portions of the city. In all other contagious diseases spread through the secretions from the mouth and nose, epidemic outbreaks have been observed in crowded sections of cities, in asylums, hospitals, jails, on shipboard, and similar places where the spread of infection by contact is favored. This is the case with scarlet fever, diphtheria, measles, mumps, whooping-cough, influenza, common colds, pneumonia, and finally cerebrospinal meningitis. Cases of infantile paralysis in all stages of the disease have been taken into the hospitals, orphan asylums, children's homes, reformatory schools, and other institutions in the Commonwealth, but in no instance during the five years in which the disease has been studied has it ever spread under these circumstances.

The seasonal prevalence, furthermore, of infantile paralysis does not suggest the seasonal prevalence of the diseases spread by contact through secretions from the mouth and nose. Almost all such diseases, including cerebrospinal meningitis, occur more particularly during the cold months of the year, whereas the prevalence of infantile paralysis is more marked during the summer months.

The curve of seasonal prevalence of infantile paralysis corresponds more closely with that of typhoid and the diarrheal diseases than it does with the group of infections spread through the secretions from the mouth and nose. Typhoid has its season of maximum prevalence during the warm weather. Water-borne epidemics are apt to occur in the colder months of the year, and milk outbreaks may take place at any time. "Normal," or residual typhoid is a warm weather disease and corresponds in this regard with cholera, dysentery, and the infantile diarrheas, and other intestinal infections. The only other group of diseases which prevail especially during the warm weather are those which are insect-borne. Yellow fever stops with the first frost. The most pernicious form of malaria (estivo-autumnal) extends into the autumn, but the autumn of tropical regions is warm, rainy and favorable to mosquito life. The season of maximum prevalence of the insect-borne diseases corresponds, of course, to the season of maximum prevalence of insect life, namely, the summer.

It has long been evident to the student of epidemiology that the group of "contagious" diseases spread through the secretions from the mouth and nose occur throughout the entire year, but prevail especially colder months. On the other hand, there are two groups of disease having their maximum seasonal prevalence during the warm weather, namely, the intestinal infections and the insect-borne diseases. Of these two groups of summer diseases the insect-borne group disappears almost to the vanishing point in temperate latitudes with wintry climates, whereas the intestinal diseases continue to smolder all winter long, with occasional exacerbations, and sometimes even with outbreaks of epidemic proportions. These are generalizations that may not be applicable to a specific case. When we study the seasonal prevalence of infantile paralysis in all parts of the world, however, we find a summer prevalence, sometimes extending into the fall, but dying down almost out of sight during the winter and spring. So far as we may judge, then, from the seasonal prevalence of this infection, it corresponds more closely with that of the insect-borne type than any other group of diseases.

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[1] Kling found it comparatively easy to demonstrate the presence of the virus in the washings from the mucous membranes. Thus he found that 78 per cent. of the monkeys contracted the disease after inoculation with water in which the mucous membranes of poliomyelitis cadavers had been rinsed. The virus was also found almost constantly in the secretions from the nose and throat of acute poliomyelitis patients. These results are so much at variance with the results obtained by American investigators that the question has arisen whether we are dealing with the same virus in America as that found in Sweden, or whether the virus has marked differences in virulence, or whether there is some experimental error or more likely an incorrect interpretation of results.

If poliomyelitis is a contagious disease, then we must construct secondary theories to fit certain known facts in its distribution, seasonal prevalence and age predilection—facts which are at variance with this theory. The bulk of the cases of poliomyelitis may be very mild, and only those cases perhaps are recognized that reach the threshold of clinical observation. A similar situation would be presented if we knew diphtheria only by the cases of postdiphtheritic paralysis. Each case of poliomyelitis, in accordance with the assumption that it is spread by contacts, would be surrounded by a number of healthy carriers, but serious epidemics do not occur because the infected persons are not very susceptible. Why epidemic outbreaks should occur in rural conditions and not in the congested parts of cities is, however, not explained by this assumption. The assumed barrier of resisting individuals apparently isolates the case, but, in fact, favors the spread of the infection. It seems to be a general rule that a region where the disease has been epidemic is spared further outbreaks later. This phenomenon may be explained by assuming that a large part of the population has become immunized by having had the disease in an attenuated and unrecognized form. It is further assumed that in rural districts there is not the same opportunity perhaps to acquire immunity, and when an epidemic occurs it is liable to run an exceptionally severe course. The loopholes in these conceptions are evident to students of the disease, but it is an interesting speculation that deserves careful consideration and further study.

That infantile paralysis may be an intestinal infection has not been given the consideration that it deserves. In addition to a suggestive seasonal prevalence, there is the age incidence and gastro-intestinal symptoms which often usher in an attack; furthermore, we have the fact that monkeys may be infected by feeding, and the further important fact that the virus has been demonstrated in the intestinal mucosa, and even in the discharges from the bowels. No convincing outbreak of infantile paralysis has ever been associated with water, milk, meat, or other article of diet. Furthermore, we would expect a somewhat different epidemiology if food were a medium in transmitting the virus. The inherent unreliability of epidemiologic data, especially of a disease such as infantile paralysis, has already been noted, and the possibility of the virus entering by the digestive tube should be borne in mind by investigators. It took a long time to learn that milk may convey scarlet fever and other infections, and that pork may be responsible for trichinosis.

There has long been a suspicion that man contracts infantile paralysis from the lower animals. Hill incriminates horses. Thus, colts in Minnesota have suffered with a disease clinically like poliomyelitis, and the hypothesis has been proposed that the virus is spread through the intestinal discharges of horses, which, drying, fly about as dust. A number of other students have associated it in one way or another with horses. Joest has described in detail the lesions of a disease of horses known as *Bornasche's Krankheit,* which has a similarity to poliomyelitis. Langhorst considers a possible relationship with the dog and cites two cases, in one of which the patient was bitten by a dog; the other patient was licked by a dog, and at the same time had a few scratches on his hand. In both cases the diagnosis of rabies was not excluded. In fact, there are many striking resemblances between rabies and polimyelitis. All laboratory investigators who have worked with these two diseases have been struck with this resemblance. Both diseases are acute paralytic affections. The virus in both diseases is found in its greatest concentration and virulence in the central nervous system, but is also widely diffused throughout the body. The virus of both infections is filtrable, and in both affections the brunt of the lesions fall on the neurons of the central nervous system. There are other similarities between the two diseases which should be borne in mind, especially when studying the possible relationship between poliomyelitis and dogs.

Many observations have been made in Massachusetts and elsewhere of paralytic diseases of domestic animals occurring about the same time as poliomyelitis in man. Such paralytic diseases are common among pigs and also chickens, as well as horses, dogs, cats, etc. P. Roemer reported a paralytic disease in guinea-pigs which occurred among animals in his laboratory. The guinea-pigs died of a paralysis which has some resemblance to infantile paralysis. The infection is transmissible from guinea-pig to guinea-pig by inoculation; the virus is found to be non-bacterial, and filterable; the incubation period is from nine to twelve days; the symptoms are flaccid paralysis, usually of the hind legs, with involvement of the bladder. Microscopically there is also a resemblance in the lesions of these guinea-pigs and those of poliomyelitis in man and monkeys. Roemer, however, does not claim, and there is nothing to indicate, that this paralytic disease of guinea-pigs is identical with poliomyelitis. Neustaedter has recently noted a paralytic affection of guinea-pigs that were kept in a cage under some monkeys with experimental poliomyelitis. The evidence that any of these paralytic diseases were genuine instances of true infantile paralysis is far from convincing.

Animals suffer with many paralytic diseases, the etiology of a few of which are known, but most of which are pathologic puzzles. The mere fact that an animal has an acute paralytic infection, with perhaps suggestive lesions in the cord, is not sufficient basis for concluding that we are dealing with poliomyelitis. All attempts to transmit the virus of infantile paralysis to lower animals except the monkey, have failed. Theobald Smith, Flexner and others have made numerous attempts to carry on the paralytic diseases of pigs, chickens and other animals without success. Therefore, while it is fairly possible that some of the lower animals may suffer with poliomyelitis, perhaps in a clinically unrecognized form, and while it is possible that man may contract the infection from lower animals, the possibility is only an assumption and lacks evidence.

Another theory to account for the spread of infantile paralysis is that it is dust-borne. Hill's observations of dust and its relation to the disease in Minnesota have already been referred to. The Massachusetts State Board of Health, during the five years of its epidemiologic studies, also considered the possibility of dust as a medium of conveying the virus, without, however, discovering any particular relationship between dust and the disease. The most suggestive evidence comes from Neustaedter and Thro, who claim to have induced the disease in monkeys by inoculating them with the dust found in sick-rooms. If the virus leaves the body in any considerable amount in the secretions from the mouth and nose, it is quite conceivable that the dust of the sick-room may contain the virus, for we know that, under certain circumstances, it retains its viability for months. Poliomyelitis does not have the characteristics of a dust-borne disease, or even of an air-borne infection, and this hypothesis has therefore been given scant credence.

The possibility that poliomyelitis may be a wound infection has been kept in mind in the investigations made by the Massachusetts State Board of Health. No particular relationship between wounds and the disease has been made out. The resemblance between infantile paralysis and rabies has already been discussed, and the fact is plain that monkeys may be inoculated through wounds; in fact, it is possible to cause the disease in the monkeys in the greatest possible varieties of ways.

Some of the reasons for considering poliomyelitis an insect-borne disease have been published in some detail in another publication, and need not now be recounted. The epidemiologic evidence collected by Brues and Sheppard, and summarized by Richardson, pointed toward the stable-fly, *Stomoxys calcitrans*. The successful experiments of Rosenau and Brues, soon corroborated by Anderson and Frost, incriminate the stable-fly as a factor in the transfer of the virus. The seasonal prevalence, the rural distribution and other facts concerning the disease are explained on this theory. On the other hand, the experimental facts lack further corroboration, and, moreover, these facts have not been translated from monkey to man, and we are not justified in doing so until further studies, which are now being made, are available. Schuberg and Kuhn have recently demonstrated that a number and variety of infections may be transmitted by means of the stable-fly. In their experimental work they obtained positive results with relapsing fever, anthrax, South-west African horse sickness *(Pferdesterbe)* and epithelioma of fowls *(Hühnepocken)*.

Howard and Clark conducted a series of experiments on insect transmission with the virus of poliomyelitis, at the Rockefeller Institute, with very interesting results. It was found that the domestic fly *Musca domestica*, can carry the virus of poliomyelitis in an active state for several days on the surface of the body, and for several hours within the gastro-intestinal tract. These experiments were made by permitting the flies to feed on the virus, then killing the insects, grinding up their bodies, filtering, and injecting the filtrate into monkeys. Howard and Clark found that mosquitoes *(Culex pipiens, C. sollicitans* and *C. cantator)* did not take up and maintain in a living state the virus from the spinal cords of monkeys. Negative results were also obtained with lice *(Pediculus capitis* and *P. vestimenti)*. The experiments with lice were designed to simulate natural conditions, but it was found that these insects did not take the virus of the blood of monkeys or maintain it in a living state. The bedbug *(Cimex lectularius)*, however, gave positive results in that it was found in one experiment to have taken the virus with the blood from infected monkeys and maintained it in a living state within the body for a period of seven days. When we consider that the virus exists in the blood of monkeys in a very dilute state, for it requires a number of cubic centimeters of blood to infect another monkey, we are almost driven to the conclusion that the virus must have become concentrated (grown?) in the body of the bedbug. The results of Howard and Clark may therefore assume an enlarged significance.

If infantile paralysis is transmitted in nature largely or mainly through the agency of the stable-fly, this fact would render the suppression of the disease comparatively easy, whereas if the infection is spread largely from person to person through the intervention of carriers and missed cases, the difficulties of the problem will be multiplied manyfold. In the case of cerebrospinal fever it has been shown that carriers are ten times as numerous as the cases; if the conditions are analogous in infantile paralysis, the suppression of the disease will probably have to wait on specific therapy, of either preventive or curative nature.

The health officer impatiently asks: "Is poliomyelitis a contagious disease?" "Is it an insect-borne disease?" "Is it dust-borne?" "Is it contracted from lower animals?" "Is it an alimentary infection?" or "Is it possibly, like typhoid fever, spread by several or all of these various methods of conveyance?" In the present state of our knowledge a definite answer cannot be made to these important queries, and we must await further work before the health officer can direct his measures to combat infantile paralysis with any assurance of success. Meanwhile the public must be given the benefit of the doubt, and the infection fought along all probable lines.

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A METHOD FOR STANDARDIZING BACTERIAL VACCINES[*]

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The following method is presented as a convenient means for determining approximately the amount of bacterial substance in suspensions used as vaccines. It consists in measuring the volume of the moist bacteria after centrifugalization in a tube with a graduated capillary tip.

Experiments with various forms of tubes show that bacteria pack closely in any tip which is 1.5 mm. or more in diameter. If the capillary portion of the tube is long, the height of the column of bacteria may vary sufficiently to affect the density of the sediment, but if this portion is under 2.5 cm. in length, there is little variation in the packing. In such a tube staphylococci and typhoid bacilli pack to within 20 per cent. of the maximum density obtainable, if centrifugalized for half an hour at 2,800 revolutions per minute. I have obtained from the International Instrument Company of Cambridge, Mass., very satisfactory tubes with tips 2 to 2.5 cm. long, having a capacity of 0.05 c.c. and graduated in hundredths of a cubic centimeter. These tips are stout enough to support the pressure of the tube when placed in cylindrical metal holders with rubber cushions. For preparing large amounts of vaccines I have used tubes with tips of the same length, but with a capacity of 0.1 c.c. For some time I used tubes of similar pattern made by drawing out test-tubes in the blowpipe flame, breaking off the capillary portion and sealing the tip. These were graduated by measuring various amounts of mercury into them with a pipet, and marking the corresponding levels with a diamond pencil. They are less convenient to use, however, as in order to prevent breakage it is necessary to float them in holders filled with glycerin. These tubes are the only special apparatus required, but it is convenient to use as filters small funnels made by drawing out test-tubes and placing a small plug of absorbent cotton in the broken-off tip. The open end of this improvised funnel is also plugged with cotton to prevent contamination of the interior. One requires also some capillary pipets of the usual type and an electric or water-power centrifuge of good speed. The tubes, filters and pipets are sterilized by dry heat before use.

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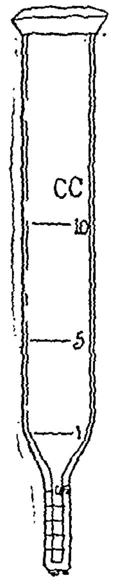
[*] From the Pathological Department, St. Luke's Hospital, New York, Dr. F. C. Wood, Director.

The procedure is as follows: The sterile cotton filter is moistened with salt solution, and the funnel is placed in the mouth of the centrifuge tube. The bacterial growth is washed from the surface of an agar culture with salt solution and transferred with a pipet to the funnel. The filtration serves to remove any particles of agar or cotton that may be taken up and also the larger clumps of bacteria. The tube is then covered with a rubber cap, and, after another tube has been filled to the same point so as to balance, is centrifugalized for half an hour. The salt solution and bacteria above the 0.05 mark are then removed, and 5 c.c. of saline solution are measured into the tube. If the sediment does not reach the 0.05 mark, its volume is read on the scale and enough saline solution is introduced to make a 1 per cent. suspension. The sediment is then resuspended by forcing the salt solution into the tip with a capillary pipet and drawing the mixture in and out of the pipet repeatedly. The suspension is next transferred to a test tube to be killed in the usual manner. The tubes are washed, first in phenol (carbolic acid) and then in distilled water, the fluids being drawn into the tip with a pipet.



Special centrifuge tube with graduated tip.

It is customary to express the dosage of vaccines in terms of the number of organisms injected. Estimations made by centrifugalizing carefully counted suspensions give the following average values for a 1 per cent. suspension of the organisms commonly used when centrifugalized for one-half hour on a head 18 cm. in diameter, at 2,800 revolutions per minute. Similar values could readily be determined for centrifuges with lower speed:

	Per Cent.	Billion Per c.c.
Staphylococcus aureus and *albus*	1	= 10
Streptococcus hemolyticus	1	= 8
Gonococcus	1	= 8
Pneumococcus	1	= 2.5
Bacillus typhosus	1	= 8
Bacillus coli	1	= 4

The pneumococci used were grown on moist serum agar and had well developed capsules.

With staphylococci the method gives very constant results as compared with a direct count, as the organisms are uniform in size and pack evenly. With colon bacilli and streptococci the count of a 1 per cent. suspension varies considerably, partly because of the great difference in the size of individual organisms of different strains and partly because of inequality in the packing of the sediment. The weight of the sediment dried to constant weight in vacuo gives the best index to the accuracy of the method. On a number of determinations the weight of 0.1 c.c. of staphylococci varied from 28.6 to 34.8 mg., with an average of 31.1 mg.; 0.1 c.c. of typhoid bacilli from 22.5 to 27.0 mg., with an average of 24.7 mg., and 0.1 c.c. of colon bacilli from 10.0 to 17.5 mg., with an average of 13.2 mg.

Of the other methods of standardization probably the most widely used is the well-known one of Wright. This consists in determining the ratio of bacteria to red cells in stained smears made from a mixture of definite proportions of vaccine and normal blood. This procedure is somewhat tedious and is open to serious errors. For example, if the entire drop used in making the film is not evenly spread on the slide, the red cells accumulate in the thicker portions. Moreover, it is necessary to obtain very even suspensions, as the presence of clumps of forty or fifty organisms in some fields introduces very large errors when a total of two to five hundred is counted. Long shaking is often required to separate the bacteria satisfactorily, and in some streptococcus growths it is practically impossible to break up the clumps.

A simpler and more accurate method was suggested by Glynn and Cox.[1] The vaccine, diluted if necessary, is placed in a Helber-Zeiss counting-chamber, and the number of bacteria in a unit volume is counted directly, and the amount multiplied by the dilution. This chamber, which was designed for counting blood platelets, has a depth of 0.02 mm. (one-fifth that of the Thoma cell). This permits the use of a high-power dry objective of 3.2 mm. focal length and a No. 4 eyepiece. With intense illumination through a small diaphragm the bacteria are readily distinguished.

Callison[2] recommends diluting the vaccine 1:100 in a red cell pipet with a staining fluid of the following composition:

Hydrochloric acid	2 c.c.
Bichlorid of mercury, 1 to 500	100 c.c.

Acid fuchsin, 1 per cent. aqueous solution, enough to give deep cherry-red color.

He counts in an ordinary Thoma cell. The staining does not aid greatly in making the count, and the fluid occasionally causes clumping. The use of a leukocyte or red cell pipet in diluting is, however, a great convenience. The method presents some of the same difficulties as that of Wright as the presence of clumps in the suspension makes an accurate count impossible. If an even suspension of the bacteria is obtained the direct count gives results which, when compared with the weight of the dried organisms, is somewhat more accurate than the centrifuge method. The method is, however, more time-consuming, and in making many preparations involves considerable eyestrain.

The toxicity of different strains of the same organism varies so greatly that the most exact determination of the amount of bacterial substance in a vaccine gives but an approximate idea of its strength. In standardizing stock vaccines from strains which have been used repeatedly and the toxicity of which is known, a careful

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1. Glynn and Cox.: Jour. Path. and Bacteriol., 1911, xv, 360.
2. Callison: Jour. Med. Research, 1912, xxvii, 225.

direct count is of value. In making autogenous vaccines from organisms of unknown activity all that is to be desired is an approximate determination of the amount of bacterial substance in the preparation. The method of standardizing by means of the centrifuge offers the advantage of simplicity combined with an accuracy sufficient for clinical purposes.

REPORT OF A GROUP OF INFANTS INFECTED BY A TUBERCULOUS ATTENDANT*

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Ten children, varying in age from about 2 to 3 years, and occupying one ward in a large infant asylum, were placed in charge of a new attendant May 15 last year. We did not know at the time that this attendant recently had been ill with tuberculosis and that she had been a patient for some months at a sanatorium. Shortly afterward, toward the end of June, our attention was called to the fact that this nurse was not in good health, that she coughed, and was losing weight. Further inquiry then disclosed that she had suffered from tuberculosis of the lungs. An examination of the sputum was carried out and showed the presence of numerous tubercle bacilli.

It was now July 1, 1912. The nurse was immediately removed from the ward, but not until she had been in charge of the children for six weeks. We were naturally greatly concerned as to whether any of the children had become infected and, although they seemed perfectly healthy, resolved to observe these children with particular attention. An exceptional opportunity was afforded in this instance for studying various phases of tuberculous infection, as for some time all children on entering the institution had been subjected to a routine von Pirquet test. This test, repeated for a second time if negative, had been carried out in all wards about every six months, so that we had at hand complete data as to the previous reactions of these children to tuberculin. They had, in fact, all been tested in April. Three of the ten had been found to give a positive reaction. This was readily accounted for in one instance by the fact that the mother of the child had tuberculosis. About the middle of July, soon after the nurse left, the children were all retested, and all were found to react in the same way as three months previously (Table 1). No further tests were carried out during the summer, but in October the entire group was once more retested. The reactions had entirely changed; instead of merely three being positive, all the children in the ward now gave a positive reaction. When the test was repeated in January of this year, the same result was obtained. Such were the results of the tuberculin test.

From a clinical point of view, the condition of the children has changed very little in these months from April to the present time. None of them coughs; none shows any definite signs of tuberculosis, and although they have not all gained in weight satisfactorily, they are fairly well nourished. Possibly one exception may be made to this statement, for one child had lost in weight and attracted attention on account of his poor color. This child, however, revealed no physical signs of tuberculosis, nor did a test of the sputum from the larynx show tubercle bacilli; indeed, in the course of the past six weeks, he has improved markedly and gained considerably in weight. So that we may safely state that we have a group of young children who were exposed for six weeks to infection through a tuberculous attendant with the result that, although their health has not suffered, they all have acquired a positive reaction to tuberculin.

A report of this infection seemed particularly worthy of regard because the various factors connected with it were subject to unusually full control. In the first place, all the children had been tested with tuberculin in a routine way by the house physician before they were exposed to infection. Furthermore, we are considering a group of children who never leave the precincts of the institution, and therefore who are not exposed to infection from without. It is hardly necessary to add that, following the discovery of this tuberculous attendant, there was a thorough inquiry as to the health of other attendants throughout the institution. No other tuberculous attendant was found, nor indeed has tuberculosis developed during the past year in the case of anyone connected with the institution; so that infection from within as well as from without may be excluded.[1] We have had no other group of children in the institution develop positive tuberculin reactions. The reactions in this respect have been remarkably constant. A negative reaction on admission has almost always meant a negative reaction later; occasionally a positive reaction developed within the first few months after the child was admitted, indicating that it had been infected shortly before admission to the institution. The small group which we are recording does not, however, come under this category, as the children had been in the institution for a year or more. I shall not take the space to give a tabular account of the reactions of the

TABLE 1.—TUBERCULOUS INFECTION OF WARD*

Name.	Age, Yrs.	Von Pirquet Tests April, 1912.	July, 1912.	Oct., 1912.	Jan., 1913
....					
E. L.	2½	?	—	..	+
A. V.	3¼	—	—	+	+
S. S.	3	++	+++	+	+++†
S. O.	3	—	—	+	+
R. S.	2½	+	+++	+++	+++
A. S.	2¾	—	—	+	+
M. G.	3	—	—	+	++
L. S.	2½	—	—	+	++
S. B.	3	+	+	++	++
R. F.	2	—	?	+	++

* Nurse with open tuberculosis in charge of children from May 15 to July 1.
† Mother tuberculous.

TABLE 2.—ROUTINE TESTS OF SOME CHILDREN IN OTHER WARDS (1912 AND 1913)

Name.	Age, Yrs.	Von Pirquet Reaction 1912.	1913
.....		....	....
L. A.	5	—	?
V. A.	3	—	—
A. A.	4½	+++	+++
H. A.	4	—	—
E. A.	4½	+++	+++
B. A.	3	—	—
S. A.	4½	—	?
S. A.	5½	++	++
A. B.	4	—	—
M. B.	¼	—	—
C. B.	4	—	—
B. B.	3	++	++
B. B.	¼	—	—
G. B.	2	—	—
C. B.	1½	+	—
S. B.	3	+	++

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* From the Research Laboratory, Dept. of Health, New York.

[1] All the milk which is furnished the institution has been thoroughly pasteurized by being subjected to a temperature of 145 F. for 45 minutes, a degree of heat which kills all tubercle bacilli.

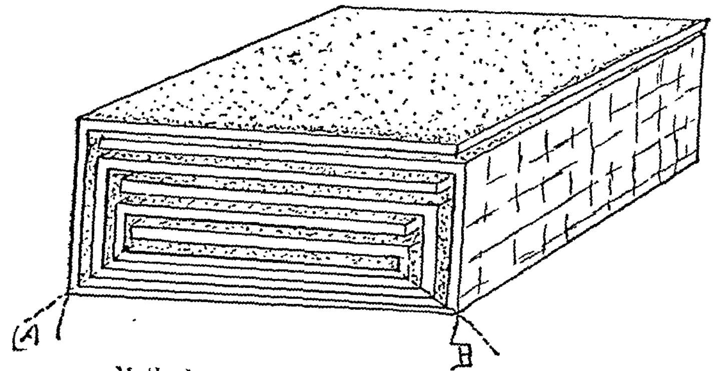
Taking a piece of gauze about 18 inches square, I spread it in a single layer over a Kelly proctoscope, rubbed petrolatum into it thoroughly and inserted the proctoscope into the rectum well past the sphincters. The obturator was then withdrawn and the invaginated piece of gauze was packed, through the proctoscope, with a 10-yard 1-inch gauze bandage, withdrawing the proctoscope as the invaginated gauze was ballooned up. When the packing filled the rectum and the proctoscope was withdrawn, the loose edges of the invaginated gauze were twisted tightly together, which bound the packing into a hard mass. The hemorrhage stopped completely at once.

Thirty-eight hours later the packing was withdrawn with perfect ease, without hurting the patient or starting the hemorrhage again, by catching the external end of the bandage used as packing and drawing it out. This allowed the invaginated piece of gauze to collapse and slip out without the slightest dragging on the tender mucous membrane. The patient was discharged from the hospital three weeks later in good condition and without further hemorrhages.

A PLASTER-OF-PARIS SPLINT

M. D. Touart, M.D., New York

Every surgeon using molded plaster-of-Paris splints in the treatment of fractures has been more or less annoyed by the great amount of manipulation and soiling and the time required in the making of such splints. To overcome these disadvantages I have devised means for preparing plaster-of-Paris splints in a dry state so that they may be kept until needed.



Method of preparing plaster-of-Paris splint.

Several layers of unstiffened gauze, three times the width of the desired splint, are stitched together lengthwise along two lines (*A* and *B* in the diagram), so as to divide them into three equal parts. Plaster of Paris is applied to the middle third and rubbed into the cloth in the usual manner. A layer from one of the outer thirds is now folded to the center, and plaster applied to it. Then the corresponding layer of the remaining third is treated in like manner, and so on until all the interstices are filled. When completed, the splint consists of several alternating layers of gauze and plaster thoroughly incorporated into one composite whole.

I have used for some time such splints of various lengths and widths and find them most satisfactory. They are prepared as described above, folded lengthwise to a convenient size and securely enclosed in paraffined paper. With a piece of surgical lint of sufficient size for padding, they are placed in a box forming a package easy to carry in any surgical bag.

For use, the splint should be folded crosswise and stood on end under water until thoroughly moistened. The excess of water is then expressed and the splint smoothed out on a flat surface until wrinkles have been removed. With the strip of surgical lint as padding the splint is applied to the part, bandaged firmly and allowed to harden. It is then removed, the ends and corners rounded, or shortened if necessary, and replaced with adhesive plaster retaining-straps. The time required in the application is short, the manipulation slight and the soiling need not extend beyond the surgeon's hands.

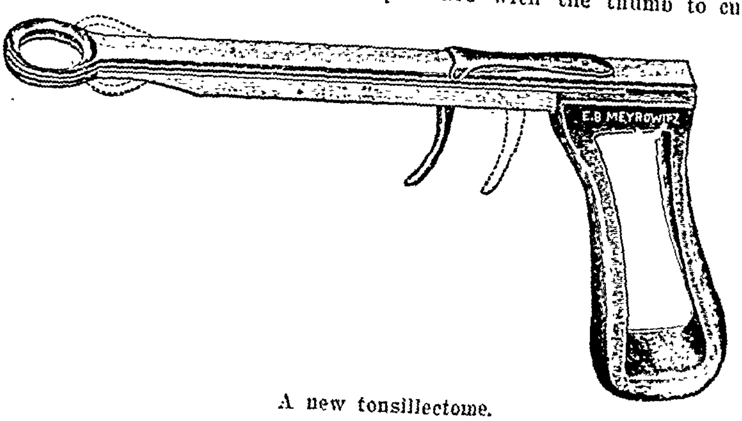
The great value of such a splint, aside from its convenience, is apparent. It may be applied from the moment a fracture occurs. It may be loosened to accommodate swelling or tightened as the swelling disappears. It allows of inspection, massage or other treatment at any time. It is a most efficient agent for immobilization by virtue of its fitting the part with accuracy and having no thick padding to favor displacement. It is exceedingly comfortable, being light and exerting an even pressure throughout its whole length. It has sufficient durability to last throughout the period of treatment. In a word, it is a splint that will give both patient and surgeon the utmost satisfaction.

450 West One Hundred and Forty-Fifth Street.

A NEW TONSILLECTOME*

J. Ellis Jennings, M.D., St. Louis

This new tonsillectome was designed to remove the tonsil in its capsule by the Sluder method. The essential and distinctive feature of this operation is the moving of the tonsil completely out of its normal bed forward and upward onto the eminence of the lower jaw produced by the last molar tooth, and the utilization of this prominence in putting the tonsil through the aperture of the guillotine. For this operation a tonsillectome of great strength and leverage power is essential. To attain these ends Dr. Sluder has modified the Physick-Mackenzie guillotine by doubling the thickness of the shaft, shortening its length and making the handle longer. In using this instrument with its dull blade I found considerable difficulty in exerting sufficient pressure with the thumb to cut through the tissues. In consequence they were bruised and torn before the tonsil was removed.



A new tonsillectome.

In thinking over the matter it seemed to me: (1) that the best way to remove a tonsil was to cut from behind forward; (2) that when the whole tonsil was through the ring its attachments should be cut off cleanly with a sharp blade, and that when they had been severed in this way the hemorrhage would be little greater than if the blade were dull, and (3) that it was much easier to pull with the finger than to push with the thumb. Therefore I began to study the possibilities of the Fahnestock-Mathiew tonsillotome with its ring-knife to cut on the pull. I found it was not adapted to the Sluder operation because any attempt to exert a leverage force caused a painful pressure of the rings against the bones of the fingers. So I discarded the rings for the fingers and the elevating prongs, greatly strengthened the supporting blade, added a strong handle and trigger, and evolved what might aptly be called the pistol guillotine. It is very strong. The pistol grip enables the operator to exert all the leverage force required to put the tonsil through the aperture, and the sharp ring-knife cuts the attachments of the tonsil by a natural movement of the finger on the trigger. By lifting and turning the small plate above the handle, one may take the instrument apart in a second.

508 Carleton Building.

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* Read before the oto-laryngologic section of the St. Louis Medical Society, March 26, 1913.

AN ORIGINAL METHOD OF TESTING FOR POTASSIUM IODID IN THE URINE†

HENRY POWER, M.D., SPOKANE, WASH.

The use of the internal administration of potassium iodid in doses of one or more grams and a subsequent series of tests of the urine that its total period of elimination may be determined has come to be considered as a practical test for the functional activity of the *kidney*. *The drug* is expected to disappear in about fifty hours. Heretofore the urine has been subjected to the action of fuming nitric acid and then washed with chloroform, the iodid color appearing in the globules of the latter solvent.

Believing that this test had many factors in common with the tests for indican, I set about devising the following method, which is able to indicate the presence of the drug in one-fifteenth part of 1 per cent. and *is at the same time free from the* objection of possible confusion with the indican reaction.

Materials Required.—A, boiled starch solution. B, a small platinum or carbon electrode. C, any *convenient source of* direct electric current. D, a white evaporating dish.

Test.—Urine is mixed with starch solution in the dish and the two electric poles immersed in the fluid; the positive or carbon pole being of platinum or carbon. A current of *from 3 to 10* milliamperes is allowed to flow through the liquid mixture and in a few seconds the starch about the positive pole is seen to turn blue as a result of the iodin set free from combination *by the action of the current.*

421 Old National Bank Building.

Special Article

BACTERIAL VACCINE THERAPY: ITS INDICATIONS AND LIMITATIONS*

(Continued from page 1541)

INOCULATION TECHNIC

Bacterial vaccines are administered by subcutaneous injection. Attempts to administer them by the mouth or by rectum have not progressed beyond the experimental stage. Intravenous and intramuscular injections are not practiced as a rule.

Syringe.—While the physician's ordinary hypodermic syringe can be used, a special syringe should be set apart for vaccine therapy. Preferably this syringe, or at least its barrel, should be of glass, accurately graduated either in minims or in fractions of a cubic centimeter. A capacity of 1, or at most 2 c.c. is sufficient. The plunger may be of metal to fit a ground barrel, of glass ground to make a good fit, or of glass with asbestos packing. Ordinary steel hypodermic needles with slip-joint or screw-joint rust readily and dull when sterilized by boiling, but they are cheap as compared with the more durable needles of platinum or gold. A simple glass-barreled syringe with asbestos-packed glass plunger, graduated according to the apothecaries' measure or the metric system, with two steel needles, is inexpensive and satisfactory.

Sterilization of the Syringe.—Boiling in water for five or ten minutes is the most satisfactory method of sterilizing the vaccine syringe. When the water is hard, the layer of salts deposited on the syringe and plunger must be dissolved occasionally with hydrochloric acid. After use the syringe should be rinsed with boiled water to remove traces of vaccine, and then rinsed with alcohol, the special object of which is to prevent the internal rusting of the needle. When the syringe is in daily use it can be left filled with alcohol until next day.

Vaccine Container.—The most convenient container for bacterial vaccine is the vaccine bottle of Wright—a bottle of convenient size covered with a tightly fitting rubber cap of sufficient thickness. Such a bottle holding 25 c.c. answers admirably for stock vaccines. For concentrated suspensions or for individual autogenous vaccines a 4-dram homeopathic vial covered with a heavy rubber test-tube cap, or two thinner test-tube caps, answers all purposes. In using such a container, a drop of liquor cresolis compositus is placed on the rubber cap, the bottle shaken, the needle plunged through the cresolized area on the cap, and the vaccine withdrawn from the inverted bottle into the sterilized syringe. With a cap of suitable thickness, or a double cap of thinner rubber, the puncture seals itself, and vaccine can be withdrawn repeatedly through freshly cresolized punctures.

Market vaccines in bulbs or bottles of single doses are withdrawn into the sterilized syringe; one should not forget to invert the bulb or narrow-necked bottle during the withdrawal of the vaccine.

Shaking the Vaccine.—In all vaccines the bacteria sink to the sides or bottom of the container if undisturbed. Hence the necessity of vigorous shaking to secure a uniform suspension.

Injection-Site.—It is important to choose a proper site for inoculating bacterial vaccines. Physicians daily make glaring mistakes in this seemingly simple matter. Although the upper arm is not usually suitable as the inoculation site, physicians not uncommonly make repeated inoculations in this restricted area, resulting in a series of indurations painful to the patient and defeating the immunizator's purpose. For the two or three injections required in antityphoid inoculation, it is permissible to use the upper arm, provided a fresh site is chosen for each injection; but the tense skin of the upper arm is a drawback, and local reactions are more severe because of the muscular movements. If possible, one should select a site with thin, loose integument. The infraclavicular region on both sides in an area as large as the outstretched hand is suitable. The skin over this site is thin and loose and the area sufficient to furnish a fresh point for each of a number of inoculations. In women with exceptionally large breasts, inoculating over mammary tissue should be avoided.

Other regions often recommended have certain disadvantages. In adults, the integument of the back, either in the interscapular region or over the buttocks, is two or three times as thick as that on the front of the body, and adheres tightly to the underlying tissues. In infants and young children whose skin is tender and loose, inoculations are permissible in the back or upper part of the buttocks. Over the abdomen there is usually a well-developed layer of fat to which the skin sticks tightly, and persistent indurations commonly follow inoculations in this region. In the legs there is the objection of pain from muscular movement, though the inner upper thigh is a much better locality than the arm.

Repeated Localized Inoculations.—Whatever the site of inoculation, repeated injections in a circumscribed

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* This series of articles has been prepared under the direction of a committee appointed for the purpose by the Council on Pharmacy and Chemistry of the American Medical Association. The committee consists of Drs. Ludvig Hektoen, Chicago; David L. Edsall, Boston; John Howland, Baltimore; Reid Hunt, Washington, D. C., and Albert P. Ohlmacher, Detroit.

† Described and demonstrated at the meeting of the Spokane County Medical Society, April 10, 1913.

TABLE A—PHYSICIANS EXAMINED BY

Marginal Number	NAME OF COLLEGE	1 Alabama		2 Arizona		3 Arkansas		4 California		5 Colorado		6 Connecticut		7 Delaware		8 District of Columbia		9 Florida		10 Georgia		11 Idaho		12 Illinois		13 Indiana		14 Iowa		15 Kansas		16 Kentucky		17 Louisiana		18 Maine		19 Maryland		20 Massachusetts		21 Michigan		Marginal Number
		P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	
	ALABAMA																																											
1	Birmingham Medical College.—R.	20	22															1	0	3	0																							1
2	University of Alabama, Med. Dept.—R.	21	9															4	2															8	0									2
	ARKANSAS																																											
3	College of Physicians and Surgeons.—R.					1	2																																					3
4	Univ. of Arkansas, Med. Dept.—R.					40	9											1	0															1	1									4
	CALIFORNIA																																											
5	College of P. and S., Los Angeles.—R.			1	0			24	3																																			5
6	College of P. and S., San Francisco.—R.							2	4															1	0																			6
7	Cooper Medical College.—R.							30	3																																			7
8	Hahnemann Medical College of the Pacific.—H.							3	1																																			8
9	Oakland College of Med. and Surg.—R.							6	1																																			9
10	Univ. of California, Med. Dept.—R.							33	0																																			10
	COLORADO																																											
11	Univ. of Colorado, Med. Dept.—R.							4	1	30	0											1	0							1	0													11
	CONNECTICUT																																											
12	Yale Medical College.—R.											18	1																							1	0			2	0			12
	DISTRICT OF COLUMBIA																																											
13	George Washington University.—R.							2	0							21	2			1	0	1	0	2	0			1	0									2	1			1	0	13
14	Georgetown University, School of Med.—R.											2	0			13	2																					1	1					14
15	Howard University, Med. Dept.—R.	0	1					1	0	0	1					5	0	4	0	3	1																	1	3	1	1			15
	GEORGIA																																											
16	Atlanta College of Physicians and Surgeons.—R.	1	2															12	1	53	1																							16
7	Atlanta School of Medicine.—R.	1	2															4	1	45	1													0	1					0	2			17
	Georgia College of Eclectic Med. and Surg.—E.					1	0																																					18
	Southern College of Med. and Surg., Atlanta.—R.																	3	1																									19
	Medical College of Georgia.—R.	0	1															2	3	31	0																							20
	ILLINOIS																																											
21	Bennett Medical College.—R.	1	0			1	0	1	1									2	0					49	14	1	0	2	0											1	0	2	0	21
22	Chicago Coll. of Med. and Surg.—R.			1	0	3	1	1	0	2	0							1	0			1	1	95	24	4	0	5	0	1	0									1	0			22
23	College of Physicians and Surgeons.—R.							13	4									1	0			3	0	112	25	3	0	13	1	1	0											8	0	23
24	Hahnemann Medical College and Hospital.—R.					2	0	1	2			1	0			1	0	1	0					18	12	3	0	4	1									1	0			1	0	24
25	Hering Medical College.—H.							1	0											1	0			2	2							1	0											25
26	Jenner Medical College.—R.					1	0																	9	3																			26
27	Northwestern Univ. Med. School.—R.	2	0	1	0			6	1	1	0											5	1	68	6	4	0	11	0	1	0													27
28	Rush Medical College.—R.	1	0	5	0			12	3	1	0	0	1					2	0			1	0	74	2	1	0	7	0	5	0											1	0	28
	INDIANA																																											
29	Indiana Univ., School of Med.—R.							1	0																	46	0																	29
	IOWA																																											
30	Drake University, College of Med.—R.			1	0			1	0																			16	0															30
31	State University of Iowa, College of Med.—R.							3	0					1	0							2	2					35	1															31
32	State University of Iowa, Homeo. Dept.—H.																											4	0															32
	KANSAS																																											
33	Kansas Medical College.—R.																					2	0							10	0									1	0			33
34	Univ. of Kansas, School of Med.—R.																					0	1							10	1													34
	KENTUCKY																																											
35	Univ. of Louisville, Med. Dept.—R.	0	1	1	0	2	0	0	1									4	0	2	1	1	0	1	2	13	2	2	0			69	4	3	4	0	1					1	0	35
	LOUISIANA																																											
36	Tulane University, Med. Dept.—R.	10	6	1	0			1	0									5	0	1	0	1	0	1	0					1	0			89	6									36
	MAINE																																											
37	Medical School of Maine.—R.																																			7	0			5	1			37
	MARYLAND																																											
38	Baltimore Medical College.—R.							1	0			2	2	1	0	0	1	3	0	1	0															2	0	16	2	2	0	1	0	38
39	College of Physicians and Surgeons.—R.			1	0			0	2			4	1					4	0	1	0											1	0					14	3	5	1			39
40	Johns Hopkins Univ., Med. Dept.—R.	3	0	2	0			2	0			4	0			1	0			1	0			2	0													47	1	6	0			40
41	Maryland Medical College.—R.											2	2	1	0					2	1															2	5	12	23	5	4			41
42	Univ. of Maryland, School of Med.—R.	2	0					1	0			3	1			3	0	5	0	2	0																	37	6	2	0			42
	MASSACHUSETTS																																											
43	Boston University, School of Med.—H.											1	0																							3	0			16	1			43
44	College of Physicians and Surgeons.—R.											0	1					2	1	1	1			1	0											13	2			10	6			44
45	Harvard Medical School.—R.	0	1					6	1	1	0	2	0			1	0							1	0	1	0									3	0			31	2	1	0	45
40	Tufts College Medical School.—R.							1	0			2	0											1	1					1	1					15	4			67	2			46
	MICHIGAN																																											
47	Detroit College of Medicine.—R.			1	0			1	1																	1	0															33	0	47
48	Univ. of Mich., Dept. of Med. and Surg.—R.							5	0			1	0					3	0			1	0	3	0	1	0													1	0	77	0	48
49	Univ. of Mich., Homeo. College.—H.																																	1	0							16	0	49
	MINNESOTA																																											
50	Univ. of Minn., College of Med. and Surg.—R.			1	1			7	0													1	0																					50
	MISSOURI																																											
51	American Medical College.—E.					4	1	0	1															10	8																			51
52	Barnes Medical College.—R.			1	0	3	1	0	2									1	2			1	1	1	4			2	0															52
53	Eclectic Medical University, Kansas City.—E.					13	0																																					53
54	Ensworth Medical College.—R.																													0	1													54
55	Kansas City Hahnemann Med. College.—H.					1	1																							6	2													55
56	St. Louis University, School of Medicine.—R.					2	0	3	0	1	0	1	0							1	0			8	2	1	0	3	0															56
57	St. Louis College of Phys. and Surgs.—R.					1	1	1	0									0	2	1	0	1	1	0	3			1	2	0	2			0	1									57
58	University Medical College, Kansas City.—R.					1	0	1	0	1	0													1	0			1	0	7	2									1	0			58
59	Washington University, Med. Dept.—R.			1	0	1	0	4	1															6	0			1	0															59
		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		

R—Regular; H—Homeopathic; E—Eclectic

STATE BOARDS DURING 1912

Marginal Number	22 Minnesota		23 Mississippi		24 Missouri		25 Montana		26 Nebraska		27 Nevada		28 New Hampshire		29 New Jersey		30 New Mexico		31 New York		32 North Carolina		33 North Dakota		34 Ohio		35 Oklahoma		36 Oregon		37 Pennsylvania		38 Rhode Island		39 South Carolina		40 South Dakota		41 Tennessee		42 Texas		43 Utah		44 Vermont		45 Virginia		46 Washington		47 West Virginia		48 Wisconsin		49 Wyoming		Totals:	Examined—Passed	Examined—Failed	Percentage of Failures	No. States Ex. In	Marginal Number
	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F						
1																																							2	0	1	0															49	27	22	44.9	5	1
2			3	0	1	0																																	0	1																	49	37	12	24.5	6	2
3																											1	2											1	0																	7	3	4	57.1	3	3
4					1	1																					3	2																													59	46	13	22.0	5	4
5	1	0																											1	0									1	0	1	0															32	29	3	9.4	6	5
6											1	0																	1	1																											10	5	5	50.0	4	6
7																													1	0																											34	31	3	8.8	2	7
8																																																									4	3	1	25.0	1	8
9																																																									7	6	1	14.3	1	9
10																			1	0									1	0																											35	35	0	0.	3	10
11																			0	1							1	0	1	1													2	0					3	0					1	0	47	44	3	6.4	10	11
12																			5	1					1	0																			1	0											30	28	2	6.7	6	12
13																			0	2	1	1							1	1			1	0	2	0									1	0	2	0	1	0							47	40	7	14.9	16	13
14							0	1	1	0					1	0			1	0													1	1													1	0									26	21	5	19.2	9	14
15					1	0									1	0			1	1	1	1					2	2							1	0											6	0			7	2					48	35	13	27.1	16	15
16																	0	1			1	0					1	0							4	1					1	0															79	73	6	7.6	8	16
17			2	1																	1	0					1	1							1	1																					65	55	10	15.4	9	17
18																																			0	2											0	1									4	1	3	75.0	3	18
19																																			0	1																					5	3	2	40.0	2	19
20																																			2	2																					41	35	6	14.6	4	20
21					1	0	3	0	5	0																													1	0									0	1	1	0	4	7			98	75	23	23.5	16	21
22			1	0	2	0	2	0	3	0									0	2			0	1			4	0	1	1											1	0							1	2	2	0	1	0	1	0	166	134	32	19.3	24	22
23	1	0	1	0			1	1	1	0									0	1							1	0	6	3							2	0									0	1	7	2			1	0			213	175	38	17.8	19	23
24							2	0	2	0	1	0																	3	1									1	0	1	0	0	1					1	1			0	1			63	44	19	30.1	19	24
25																													0	1																			1	0							9	6	3	33.3	6	25
26																																					1	0																			14	11	3	21.4	3	26
27	1	0			3	0	2	0	2	0									1	0			1	0			2	0	3	0							3	0	1	0			3	0					4	0			6	0			139	131	8	5.8	22	27
28	4	0			3	0	5	0	3	0									2	1					3	0	1	1	12	0									1	0			5	0					4	0			3	0	2	0	166	158	8	4.8	25	28
29																													1	0							1	0															0	1			50	49	1	2.0	5	29
30							1	0																			1	0									1	0																			21	21	0	0.	6	30
31							0	1			1	0																	1	1																			1	0							49	44	5	10.2	8	31
32									1	0																																															5	5	0	0.	2	32
33							1	0																																									1	0							15	15	0	0.	5	33
34					2	0																							1	0																											15	13	2	13.3	4	34
35	0	1	5	0	4	1	0	1	1	0					1	1			0	3	2	0	1	0	1	0	4	0	2	2					1	0	1	0	13	1	4	1					2	0	3	2	10	4	0	1			188	154	34	18.1	34	35
36			8	1															1	1	2	0					2	0							1	0					15	0					1	0									154	140	14	9.1	16	36
37													3	1					1	0																																					18	16	2	11.1	4	37
38							2	1					2	2					2	4													3	1											1	1	3	0	0	1	2	0					59	44	15	25.4	18	38
39	1	0													1	1			4	3	0	1							1	0			2	0	0	1					2	0	1	0					1	0	15	4					75	58	17	22.7	19	39
40	2	0			2	0							1	0					7	4	1	0													1	0					2	0					2	0	3	0			1	0			95	90	5	5.3	19	40
41			0	1									0	2							1	0																									3	3			6	5			1	0	81	35	46	56.8	12	41
42					1	0							1	0	2	2			2	2	10	2							1	0					8	0					1	0			1	0	2	0			2	0					99	86	13	13.1	19	42
43													5	0					1	0													3	0																							30	29	1	3.3	6	43
44	1	0																			0	1													2	0					1	0															43	31	12	28.0	10	44
45					1	0			1	0			3	0	0	1			11	2					0	1			4	0			6	2											1	0									1	0	85	75	10	11.8	20	45
46							1	0					6	0					3	0													9	4	1	0																					119	107	12	10.1	11	46
47							1	0																					1	0																											44	43	1	2.3	6	47
48	1	0					6	0	1	0									2	0									1	0					1	0													1	2							107	105	2	1.9	16	48
49																									1	0																							1	0							19	19	0	0.	3	49
50	29	0					3	0															4	0																									5	1							52	50	2	3.8	7	50
51					23	8																					2	0	1	0									2	0											1	0					61	43	18	29.5	8	51
52	1	0	0	1	7	4																	0	1			0	1	0	1							1	0	2	0									0	1							39	20	19	48.7	16	52
53																																																									13	13	0	0.	1	53
54					3	2			1	3													0	1					0	1									1	0																	13	5	8	61.5	6	54
55					3	0			0	1																	0	1																													15	10	5	33.3	5	55
56					35	0			1	0									1	0							4	0	3	1											1	0	1	0					2	0							91	88	3	3.3	16	56
57	0	1			2	4	1	0	0	1							2	0									4	2													1	0							0	1					1	0	37	16	21	56.7	18	57
58					19	5	2	0	2	0																	2	0	1	0																											46	39	7	15.2	12	58
59					44	0																	1	0			1	0	2	0																			2	1			1	0	1	0	67	65	2	3.0	12	59
	22		23		24		25		26		27		28		29		30		31		32		33		34		35		36		37		38		39		40		41		42		43		44		45		46		47		48		49							

TABLE A.—PHYSICIANS EXAMINED BY

Marginal Number	NAME OF COLLEGE	1 Alabama		2 Arizona		3 Arkansas		4 California		5 Colorado		6 Connecticut		7 Delaware		8 District of Columbia		9 Florida		10 Georgia		11 Idaho		12 Illinois		13 Indiana		14 Iowa		15 Kansas		16 Kentucky		17 Louisiana		18 Maine		19 Maryland		20 Massachusetts		21 Michigan		Marginal Number
		P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	
	NEBRASKA																																												
	John A. Creighton Medical College.—R.							3	0													1	0																					60
	Lincoln Medical College.—E.							0	1																																			61
	University of Nebraska, College of Med.—R.			0	1			1	0									1	0									1	0															62
	NEW HAMPSHIRE																																												
	Dartmouth Medical School.—R.																	1	0																					6	1			63
	NEW YORK																																												
	[illegible]y Medical College.—R.							2	0																	1	0													2	0			64
	[illegible]mbia University, Coll. of P. and S.—R.	1	0	1	0			5	0			4	1					1	0			0	1	1	0											2	0			2	0			65
	Cornell University Medical College.—R.							2	0			1	0											1	0			1	0											1	0			66
	Eclectic Med. Coll. of City of New York.—E.											1	0																											0	1			67
68	Fordham University, School of Medicine.—R.																																											68
69	Long Island College Hospital.—R.											0	1											1	0															1	0			69
70	New York Homeo. Med. Coll. and Hosp.—H.							1	0			2	0	2	0																					2	0			2	0			70
71	New York Med. Coll. and Hosp. for Women.—H.																																											71
72	Syracuse University, College of Medicine.—R.							1	0															2	0																			72
73	Univ. and Bellevue Hosp. and Med. Coll.—R.	1	0					1	0			1	0																									1	0	1	0			73
74	Univ. of Buffalo, Med. Dept.—R.																	1	1			2	0	1	0															1	0			74
	NORTH CAROLINA																																												
75	Leonard School of Medicine.—R.	1	2															4	2	1	0																							75
76	North Carolina Medical College.—R.																	1	0	1	0																							76
	OHIO																																												
77	Cleveland College of Phys. and Surg.—R.							1	0																																			77
78	Cleveland-Pulte Medical College.—H.																																											78
79	Eclectic Medical College.—E.					6	0	1	0															1	0	3	0					3	0											79
80	Ohio-Miami Medical College.—R.	1	0															0	1			1	0							1	0	2	0			1	0							80
81	Starling-Ohio Medical College.—R.																																									1	0	81
82	Toledo Medical College.—R.																																											82
83	Western Reserve University, Med. Dept.—R.							1	0																																			83
	OKLAHOMA																																												
84	University of Oklahoma, School of Medicine.—R.					1	0																																					84
	OREGON																																												
85	Willamette University, Med. Dept.—R.							0	1																																			85
86	University of Oregon, Med. Dept.—R.							1	1													0	1																					86
	PENNSYLVANIA																																												
87	Hahnemann Med. College and Hospital.—H.					1	0	1	0			1	0	1	0									1	0													3	0	1	0			87
88	Jefferson Medical College.—R.	3	1			3	0	2	0			0	1	7	0	1	0	2	2	2	0	2	0	1	0	3	0	9	0	1	0					5	0	4	1	6	0			88
89	Medico-Chirurgical College of Philadelphia.—R.							2	1	1	0	2	0	2	0					1	0	1	0			1	0			1	0					1	1	8	2	1	0			89
90	Temple University, Med. Dept.—R.											1	0																									3	0					90
91	Univ. of Pennsylvania, Dept. of Med.—R.	0	1	1	0	2	0	7	2			3	0	3	0					1	0	1	0	1	0					1	0	1	0			4	0	5	0	5	0			91
92	Univ. of Pittsburgh, School of Medicine.—R.													1	0			1	0																							1	0	92
93	Woman's Med. Coll. of Pennsylvania.—R.	1	0					1	0			2	1	1	0	1	1							1	0	2	0	2	0	1	0			1	0	2	0	2	1					93
	SOUTH CAROLINA																																												
94	Med. Coll. of the State of South Carolina.—R.																	5	1	6	0																			1	0			94
	TENNESSEE																																												
95	Memphis Hospital Medical College.—R.	2	7			16	3											3	1	1	0							2	0	0	1			12	15									95
96	Meharry Medical College.—R.	1	6			7	4											2	0	8	8			0	2	2	0					1	0	4	0			0	1					96
97	Lincoln Memorial Univ., Med. Dept.—R.			0	1			0	1									1	0			0	1									0	1											97
98	Univ. of Tennessee, Medical Dept.—R.	3	2			1	1											4	1	0	1									0	2	1	0	0	2					1	0			98
99	Univ. of West Tennessee, Med. Dept.—R.																	1	3																									99
100	Vanderbilt University, Med. Dept.—R.	2	2			5	1	4	0			1	0					5	1	1	0			1	0							3	0	3	0									100
	TEXAS																																												
101	Baylor University, College of Medicine.—R.																																											101
102	Texas Christian University, Med. Dept.—R.																																	0	1									102
103	Southern Methodist University Med. Dept.—R.																																											103
104	University of Texas, Dept. of Med.—R.																																	1	0									104
	VERMONT																																												
105	Univ. of Vermont, College of Med.—R.											4	1									1	0													3	0			8	3			105
	VIRGINIA																																												
106	Medical College of Virginia.—R.																																											106
107	Univ. of Virginia, Dept. of Med.—R.	1	1	2	0			2	0					1	0					2	0													2	0					1	0			107
108	University College of Medicine.—R.	1	0									1	0							1	0																	1	0	0	1			108
	WISCONSIN																																												
109	Marquette University, Med. Dept.—R.							1	0															3	2			3	1															109
110	Wisconsin Coll. of Phys. and Surgs.—R.							1	0																																			110
	CANADIAN																																												
111	Dalhousie Med. College																																							1	0			111
112	Laval University, Med. Dept.											0	1																							2	2			2	4	1	1	112
113	Manitoba Medical College																																											113
114	McGill University, Medical Faculty											3	0																							3	0			3	0			114
115	Queens University, Medical Faculty											0	1											0	1											1	0			1	0			115
116	University of Toronto, Faculty of Medicine			1	0			1	0									1	0					2	0															1	0			116
117	Western University, Med. Dept.																											1	0															117
118	Foreign Colleges			1	0			9	1	1	0			1	1	1	0	1	0	1	0			3	3	1	0											1	0	6	4	2	1	118
119	Miscellaneous Medical Colleges	4	5	8	7	5	2	26	19	1	0	0	2			1	1	14	5	2	2	4	2	19	18	3	2	4	1	1	0	6	3	3	2	1	0	1	1	3	1	7	1	119
120	Undergraduates									1	0																									1	2			13	16			120
	Totals by States	156		42		151		316		42		88		23		56		145		195		47		639		99		138		62		96		164		91		206		281		162		
	Totals—Examined—Passed	84		32		124		256		41		70		22		49		114		178		35		505		95		131		50		88		128		74		160		227		159		
	Totals—Examined—Failed	72		10		27		60		1		18		1		7		31		17		12		134		4		7		12		8		36		17		46		54		3		
	Percentage of Failures	46.2		23.8		17.9		19.0		2.4		20.5		4.4		12.5		21.4		8.7		25.5		21.0		4.0		5.1		19.4		8.3		22.0		18.7		22.3		19.2		1.9		
		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		

R—Regular; H—Homeopathic; E—Eclectic.

STATE BOARDS DURING 1912—Continued

	22		23		24		25		26		27		28		29		30		31		32		33		34		35		36		37		38		39		40		41		42		43		44		45		46		47		48		49							
Marginal Number	Minnesota		Mississippi		Missouri		Montana		Nebraska		Nevada		New Hampshire		New Jersey		New Mexico		New York		North Carolina		North Dakota		Ohio		Oklahoma		Oregon		Pennsylvania		Rhode Island		South Carolina		South Dakota		Tennessee		Texas		Utah		Vermont		Virginia		Washington		West Virginia		Wisconsin		Wyoming		Totals:	Examined—Passed	Examined—Failed	Percentage of Failures	No. States Ex. in	Marginal Number
	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	P	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F						
60					1	0	2	0	41	4													1	0					0	1							1	0																			55	50	5	9.1	8	60
61									9	1																													1	0																			12	10	2	16.7	3	61
62									9	0																																													1	0	14	13	1	7.2	6	62
63													3	1					1	0													2	0											2	0											17	15	2	11.8	6	63
64					1	0													30	20																																					56	36	20	35.7	5	64
65	1	0					2	0					1	0	3	0			65	[illegible]									3	0															1	0			2	0							105	95	10	9.5	17	65
66															4	0			23	0																													1	0							31	34	0	0.	8	66
67															1	1			7	0																																					17	9	8	47.1	4	67
68																			11	7																					1	0															19	12	7	36.8	2	68
69					1	0							1	0	5	0			63	17	1	0					1	0													1	0															93	75	18	19.4	10	69
70															4	0			13	5			2	0																																	23	28	5	15.2	8	70
71																			3	2																																					5	3	2	40.0	1	71
72									1	0									20	5									1	0																											30	25	5	16.7	5	72
73															7	0			70	7													1	0																							90	83	7	7.8	8	73
74																			31	10																													2	1							50	38	12	24.0	6	74
75			0	1																	8	12													2	3											7	10			1	2					56	24	32	57.1	8	75
76																					20	0													0	1																					29	22	7	24.1	4	76
77																			1	0					18	0																															20	20	0	0.	3	77
78																									10	3																															13	10	3	23.1	1	78
79																									6	2			0	1									2	0									0	1	0	2					28	22	6	21.4	10	79
80																			0	1					17	2																							2	0	1	0					60	56	4	6.7	10	80
81																									54	1			2	0																											58	57	1	1.7	3	81
82																									9	1																															10	9	1	10.0	1	82
83																			1	0					34	0													2	0																	38	38	0	0.	4	83
84																											6	1	0	1																											12	10	2	16.7	3	84
85																													1	9																			1	0							12	2	10	83.3	3	85
86																													8	8																			5	1							25	14	11	44.0	4	86
87	2	0													2	0			5	1					1	0											1	0			1	0															22	21	1	4.5	13	87
88					5	0	1	0			3	0	1	0	10	0			2	2	13	0			3	0	4	0	2	0			3	1	2	0	2	0					2	0			0	1	3	0	7	0	1	0			121	115	9	7.3	34	88
89					1	0									6	0			1	1					1	0							1	1									1	0	2	0											40	34	6	15.0	18	89
90																																																									4	4	0	0.	2	90
91	2	0			2	0	1	0							8	0			8	4					4	0			1	0			1	0			1	0	1	0	2	0	1	0			3	0					2	0			79	72	7	8.9	28	91
92							1	0											0	1					1	0			1	0																					4	0	0	1			12	10	2	16.7	9	92
93	1	1											1	0	1	0			5	4	1	0																			1	0			1	0			1	0			1	0			38	30	8	21.1	21	93
94	0	1																			1	0													58	13																					86	71	15	17.4	6	94
95			21	18													1	0									6	3							0	2			37	2	2	4					1	0									163	104	59	36.2	11	95
96			0	4	3	4															0	2					8	7							0	3			32	6	8	3					4	1			1	0					132	81	51	38.6	18	96
97																	2	0			1	2			1	0			0	1					0	1			11	2							2	0	1	0							29	19	10	34.5	13	97
98			2	2																							1	0							0	1			21	2	1	0					0	1			1	0					51	36	15	29.4	15	98
99																					0	1					4	2							0	1			4	2							0	2									20	9	11	55.0	6	99
100			1	0	2	0	0	1											1	0	1	0					4	0							2	0			15	0	4	0							1	0							61	56	5	8.2	19	100
101																																									15	2															17	15	2	11.8	1	101
102																											2	0													14	1															18	16	2	11.1	3	102
103																											1	0													12	1															14	13	1	7.2	2	103
104																																									48	0															49	49	0	0.	2	104
105							1	0					3	0					1	1													2	1											33	1											63	56	7	11.1	9	105
106																			1	1	4	2													1	0											34	6			1	0					50	41	9	18.0	5	106
107			2	0															1	1	3	0					1	0	1	1											1	0					8	0			1	0					32	29	3	9.4	15	107
108																			1	0	11	1																									21	1			2	0					42	39	3	7.1	9	108
109					0	1	3	1															1	0			1	0											4	0									1	0			32	6	1	0	61	50	11	18.0	11	109
110					1	0																					1	0																									10	1			14	13	1	7.2	4	110
111																																																									1	1	0	0.	1	111
112											1	0	1	0					0	1													2	1																							19	9	10	52.6	8	112
113	1	0																	1	0			1	0																																	3	3	0	0.	3	113
114	2	0													1	0			3	1			1	0									2	0							1	0							1	0							21	20	1	4.8	10	114
115																			3	2									1	0													0	1									1	0			12	7	5	41.7	9	115
116	1	0																	5	1			0	1	1	0															1	0											1	0			17	15	2	11.8	11	116
117																																																									1	1	0	0.	1	117
118			0	1	3	1	1	0			1	0	2	1	1	5			8	12					1	1			2	1											1	0	2	0	1	0			0	3			2	0			88	53	35	39.8	25	118
119	3	1	10	19	15	1	5	2	3	0	0	1	2	0	0	2	1	1	2	4	3	5	2	2	2	1	14	2	14	9					0	2	1	1	15	8	5	1	2	0			3	3	6	6	1	1	1	1	1	0	375	224	151	40.8	45	119
120																													8	18									142	52																	253	165	88	35.0	5	120
	60		104		245		59		98		9		4[illegible]		7[illegible]		8		586		124		22		211		121		161		....		51		125		17		389		164		22		47		135		96		86		87		11		6353	....	....	....	..	
	55		56		213		50		88		8		3[illegible]		5[illegible]		6		433		87		15		199		94		96		....		39		90		16		313		151		20		45		105		6[illegible]		66		68		11		....	5110	....	....	..	
	5		48		32		9		10		1		[illegible]		1[illegible]		2		153		37		7		12		27		65		....		12		35		1		76		13		2		2		30		2[illegible]		20		19		0		....	....	1243	....	..	
	8.3		46.2		13.1		15.3		10.2		11.1		16.[illegible]		19.[illegible]		25.0		26.1		29.8		31.8		5.7		22.3		40.4		....		23.5		28.0		5.9		19.5		7.9		9.1		4.3		22.2		28.[illegible]		23.3		21.8		0.		....	....	....	17.8	..	
	22		23		24		25		26		27		28		29		30		31		32		33		34		35		36		37		38		39		40		41		42		43		44		45		46		47		48		49		....	....	....	....	..	

TABLE B.—GRADUATES OF 1908 TO 1912, INCLUSIVE,

Marginal Number	NAME OF COLLEGE	1 Alabama		2 Arizona		3 Arkansas		4 California		5 Colorado		6 Connecticut		7 Delaware		8 District of Columbia		9 Florida		10 Georgia		11 Idaho		12 Illinois		13 Indiana		14 Iowa		15 Kansas		16 Kentucky		17 Louisiana		18 Maine		19 Maryland		20 Massachusetts		21 Michigan		Marginal Number
		P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	
	ALABAMA																																											
1	Birmingham Medical College.—R.	20	22															1	0	3	0																							1
2	University of Alabama, Medical Dept.—R.	21	9															4	2															8	0									2
	ARKANSAS																																											
	ollege of Physicians and Surgeons.—R.					1	[illegible]																																					3
	versity of Arkansas, Medical Dept.—R.					38	[illegible]																											0	1									4
	CALIFORNIA																																											
	ge of P. and S., Los Angeles.—R.			1	0			24	3																																			5
	llege of P. and S., San Francisco.—R.							[illegible]	4																																			6
7	Cooper Medical College.- R								2																																			7
8	Hahnemann Medical Coll								1																																			8
9	Oakland College of Medi								1																																			9
10	University of California,								0																																			10
	COLORADO																																											
11	University of Colorado, Medical Dept.—R.							3	0	30	0											1	0							1	0													11
	CONNECTICUT																																											
12	Yale Medical College.—R.											17	1																							1	0			2	0			12
	DISTRICT OF COLUMBIA																																											
13	George Washington University.—R.							1	0							21	2			1	0			2	0			1	0									2	1			1	0	13
14	Georgetown University, School of Medicine.—R.											2	0			13	2																					1	1					14
15	Howard University, Medical Dept.—R.	0	1													5	0	4	0	3	1																	1	3	1	0			15
	GEORGIA																																											
16	Atlanta College of Physicians and Surgeons.—R.	1	2															12	1	53	1																							16
17	Atlanta School of Medicine.—R.	1	2																																									17
18	Georgia College of Eclectic Med. and Surg.																																											18
19	Southern College of Med. and Surg., Atlan																																											19
20	Medical College of Georgia.—R.																	2	3	31	0																							20
	ILLINOIS																																											
21	Bennett Medical College.—R.	1	0															1	0					49	14	1	0	2	0											1	0	2	0	21
22	Chicago College of Medicine and Surgery.—R.			1	0	3	1	1	0	2	0							1	0			1	1	95	23	4	0	5	0	1	0									1	0			22
23	College of Physicians and Surgeons.—R.							6	1													2	0	111	25	3	0	13	1	1	0											8	0	23
24	Hahnemann Medical College and Hospital.—R.					2	0					1	0			1	0							17	11	3	0	4	1									1	0					24
25	Hering Medical College.—H.							1	0											1	0			2	2							1	0											25
26	Jenner Medical College.—R.					1	0																	8	2																			26
27	Northwestern University Medical School.—R.	2	0					5	1	1	0											5	1	66	6	4	0	10	0															27
28	Rush Medical College.—R.	1	0	4	0			6	0	1	0							2	0					72	2	1	0	5	0	4	0											1	0	28
	INDIANA																																											
29	Indiana University, School of Medicine.—R.							1	0																	46	0																	29
	IOWA																																											
30	Drake University, College of Medicine.—R.																											16	0															30
31	State Univ. of Iowa, College of Medicine.—R.							1	0					1	0													34	0															21
32	State Univ. of Iowa, Homeo. Dept.—H.																											4	0															32
	KANSAS																																											
33	Kansas Medical College.—R.																													10	0													33
34	University of Kansas, School of Medicine.—R.																					0	1							10	1													34
	KENTUCKY																																											
35	University of Louisville, Medical Dept.—R.	0	1			2	0											4	0	2	1			1	2	13	2	2	0			68	4	3	4	0	1					1	0	35
	LOUISIANA																																											
36	Tulane University, Medical Dept.—R.	9	6															5	0	1	0									1	0			89	4									36
	MAINE																																											
37	Medical School of Maine.—R.																																			7	0			4	0			37
	MARYLAND																																											
38	Baltimore Medical College.—R.											2	2					2																						1	0	1	0	38
39	College of Physicians and Surgeons.—R.											4	1					3																						4	1			39
40	Johns Hopkins University, Medical Dept.—R.	3	0					1	0			3	0			1	0																							6	0			40
41	Maryland Medical College.—R.											2	2	1	0																									5	4			41
42	University of Maryland, School of Medicine.—R.	1	0					1	0			3	1			2	0	3	0																					2	0			42
	MASSACHUSETTS																																											
43	Boston University, School of Medicine.—H.											1	0																							2	0			16	1			43
44	College of Physicians and Surgeons.—R.											0	1					1	1	1	1			1	0											13	2			10	5			44
45	Harvard Medical School.—R.	0	1					6	1	1	0	2	0											1	0	1	0									2	0			29	2	1	0	45
46	Tufts College Medical School.—R.											2	0																							14	3			67	2			46
	MICHIGAN																																											
47	Detroit College of Medicine.—R.																									1	0															38	0	47
48	Univ. of Mich., Dept. of Med. and Surg.—R.							2	0									1	0			1	0	2	0	1	0															76	0	48
49	Univ. of Mich., Homeo. College.—H.																																	1	0							16	0	49
	MINNESOTA																																											
50	Univ. of Minn., College of Med. and Surg.—R.							3	0																																			50
	MISSOURI																																											
51	American Medical College.—E.					3	1																	9	8																			51
52	Barnes Medical College.—R.					3	1	0	1									1	0			1	0	1	2			2	0															52
53	Eclectic Medical University, Kansas City.—E.					13	0																																					53
54	Ensworth Medical College.—R.																													0	1													54
55	Kansas City Hahnemann Medical College.—H.					1	1																							6	2													55
56	St. Louis University, School of Medicine.—R.					2	0	2	0			1	0							1	0			8	2	1	0	3	0															56
57	St. Louis College of Phys. and Surg.—R.					0	1											0	1					0	3			1	2	0	2													57
58	University Medical College, Kansas City.—R.																							1	0			1	0	7	2													58
59	Washington University, Medical Dept.—R.			1	0	1	0	2	0															6	0			1	0															59
		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		

R—Regular; H—Homeopathic; E—Eclectic.

Marginal Number	22		23		24		25		26		27		28		29		30		31		32		33		34		35		36		37		38		39		40		41		42		43		44		45		46		47		48		49		Totals:	Examined—Passed	Examined—Failed	Percentage of Failures	No. States Ex. in	Marginal Number
	Minnesota		Mississippi		Missouri		Montana		Nebraska		Nevada		New Hampshire		New Jersey		New Mexico		New York		North Carolina		North Dakota		Ohio		Oklahoma		Oregon		Pennsylvania		Rhode Island		South Carolina		South Dakota		Tennessee		Texas		Utah		Vermont		Virginia		Washington		West Virginia		Wisconsin		Wyoming							
	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F						
1																																							2	0																	48	26	22	45.8	4	1
2			3	0	1	0																																																			48	37	11	22.9	5	2
3																											1	2											1	0																	7	3	4	57.1	3	3
4					1	1																					3	2																													56	43	13	23.2	5	4
5	1	0																											1	0									1	0	1	0															32	29	3	9.4	6	5
6											1	0																	1	1																											9	4	5	55.6	3	6
7																													1	0																											33	31	2	6.1	2	7
8																																																									4	3	1	25.0	1	8
9																																																									7	6	1	14.3	1	9
10																													1	0																											34	34	0	0.	2	10
11																			0	1							1	0	1	0													2	0					3	0					1	0	44	43	1	2.3	10	11
12																			5	1					1	0																															28	26	2	7.1	5	12
13																			0	2	1	1							1	1					2	0									1	0	2	0	1	0							44	37	7	15.9	14	13
14															1	0			1	0													1	1													1	0									24	20	4	16.7	7	14
15					1	0									1	0			1	1	1	1													1	0											6	0			7	2					41	32	9	22.0	13	15
16																					1	0					1	0							4	1					1	0															78	73	5	6.4	7	16
17			2	1																	1	0					1	1							1	1																					65	55	10	15.4	9	17
18																																			0	2											0	1									3	0	3	100.0	2	18
19																																			0	1																					5	3	2	40.0	2	19
20																																			2	2																					41	35	6	14.6	4	20
21					1	0	2	0	5	0																													1	0									0	1	1	0	4	7			93	71	22	23.7	14	21
22			1	0	2	0	2	0	1	0									0	2			0	1			4	0													1	0							1	2	2	0	1	0	1	0	161	131	30	18.6	23	22
23	1	0					1	1	1	0									0	1							1	0	4	2							2	0									0	1	6	1			1	0			194	161	33	17.0	17	23
24							1	0	2	0																			1	0									1	0													0	1			47	34	13	27.7	12	24
25																													0	1																			1	0							9	6	3	33.3	6	25
26																																					1	0																			12	10	2	16.7	3	26
27	1	0			3	0	1	0	2	0									1	0			1	0			1	0	2	0							3	0	1	0			3	0					4	0			6	0			130	122	8	6.2	20	27
28	4	0			3	0	3	0	3	0									1	1					3	0			9	0									1	0			5	0					2	0			3	0			137	134	3	2.2	21	28
29																													1	0							1	0															0	1			50	49	1	2.0	5	29
30							1	0																			1	0									1	0																			19	19	0	0.	4	30
31																													1	1																			1	0							39	38	1	2.6	5	31
32																																																									4	4	0	0.	1	32
33							1	0																																									1	0							12	12	0	0.	3	33
34					2	0																							1	0																											15	13	2	13.3	4	34
35	0	1	5	0	3	1	0	1	1	0					1	1			0	2	2	0	1	0	1	0	2	0	1	1					1	0	1	0	13	1	4	1					2	0	2	2	10	4	0	1			177	146	31	17.5	31	35
36			8	1															1	1	2	0					2	0							1	0					15	0					1	0									147	135	12	8.2	12	36
37													3	0					1	0																																					15	15	0	0.	4	37
38													2	1					2	1													3	0											1	1	2	0	0	1	1	0					42	34	8	19.0	13	38
39															1	1			3	3	0	1											2	0	0	1							1	0					1	0	15	4					65	50	15	23.1	14	39
40	2	0			2	0							1	0					7	4																					2	0					2	0	3	0			1	0			86	81	5	5.8	15	40
41			0	1									0	2							1	0																									3	3			5	5			1	0	78	33	45	57.7	12	41
42															1	1			1	1	9	2													8	0					1	0			1	0	2	0			1	0					85	74	11	12.9	16	42
43													3	0					1	0													2	0																							26	25	1	3.8	6	43
44	1	0																			0	1													2	0					1	0															41	30	11	26.9	10	44
45									1	0			1	0	0	1			9	2					0	1			3	0			5	1											1	0									1	0	73	64	9	12.3	18	45
46													5	0					2	0													8	3	1	0																					107	99	8	7.5	7	46
47																																																									39	39	0	0.	2	47
48							5	0	1	0									2	0															1	0													1	0							93	93	0	0.	11	48
49																									1	0																							1	0							19	19	0	0.	4	49
50	29	0					2	0															3	0																									2	0							39	39	0	0.	5	50
51					23	8																																																			57	40	17	29.8	6	51
52					2	[illegible]																																																			18	11	7	38.9	8	52
53																																																									13	13	0	0.	1	53
54																																							1	0																	12	5	7	58.3	5	54
55																											0	1																													14	9	5	35.7	5	55
56																											4	0	3	0											1	0	1	0					2	0							88	86	2	2.3	15	56
57	0	1			2	3	1	0	0	1									1	0							4	2													1	0															27	11	16	59.2	12	57
58					18	5	2	0	2	0							2	0									1	0																													39	32	7	18.0	7	58
59					29	0																					1	0	2	0																			1	1			1	0	1	0	57	56	1	1.8	11	59
	22		23		24		25		26		27		28		29		30		31		32		33		34		35		36		37		38		39		40		41		42		43		44		45		46		47		48		49							

TABLE B.—GRADUATES OF 1908 TO 1912, INCLUSIVE,

Marginal Number	NAME OF COLLEGE	1 Alabama		2 Arizona		3 Arkansas		4 California		5 Colorado		6 Connecticut		7 Delaware		8 District of Columbia		9 Florida		10 Georgia		11 Idaho		12 Illinois		13 Indiana		14 Iowa		15 Kansas		16 Kentucky		17 Louisiana		18 Maine		19 Maryland		20 Massachusetts		21 Michigan		Marginal Number
		P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	F	P	P	F	P	F	P	F	
	NEBRASKA																																											
60	John A. Creighton Medical College.—R.							2	0													1	0																					60
61	Lincoln Medical College.—E.																																											61
62	University of Nebraska, College of Med.—R.			0	1																							1	0															62
	NEW HAMPSHIRE																																											
	Dartmouth Medical School.—R.																	1	0																					6	1			63
	NEW YORK																																											
64	Albany Medical College.—R.							1	0																	1	0													2	0			64
65	Columbia University, Coll. of P. and S.—R.	1	0					2	0			1	0									0	1	1	0											1	0			1	0			65
66	Cornell University Medical College.—R.							1	0			1	0											1	0			1	0															66
67	Eclectic Med. Coll. of City of New York.—E.											1	0																											0	1			67
68	Fordham University, School of Medicine.—R.																																											68
69	Long Island College Hospital.—R.																																							1	0			69
70	New York Homeo. Med. Coll. and Hosp.—H.											1	0	2	0																													70
71	New York Med. Coll. and Hosp. for Women. H																																											71
72	Syracuse University, College of Medicine. R																																											72
73	University and Bellevue Hosp. Med. Coll.																																							1	0			73
74	Univ. of Buffalo, Med. Dept.—R.																					1	0	1	0																			74
	NORTH CAROLINA																																											
75	Leonard School of Medicine.—R.	1	1															4	2	1	0																							75
76	North Carolina Medical College.—R.																			1	0																							76
	OHIO																																											
77	Cleveland College of Phys. and Surg.—R.							1	0																																			77
78	Cleveland-Pulte Medical College. H																																											78
79	Eclectic Medical College.—E.																															2	0											79
80	Ohio-Miami Medical College.—R.																	0	1			1	0							1	0	2	0			1	0							80
81	Starling-Ohio Medical College.—R.																																									1	0	81
82	Toledo Medical College.—R.																																											82
83	Western Reserve University, Med. Dept.—R.																																											83
	OKLAHOMA																																											
84	University of Oklahoma, School of Medicine.—R.					1	0																																					84
	OREGON																																											
85	Willamette University, Med. Dept.—R.																																											85
86	University of Oregon, Med. Dept.—R.							1	0																																			86
	PENNSYLVANIA																																											
87	Hahnemann Med. College and Hospital.—H.											1	0	1	0																							2	0	1	0			87
88	Jefferson Medical College.—R.	2	1			1	0					0	1	6	0	1	0	1	1	1	0	2	0	1	0	3	0	9	0	1	0					5	0	4	0	4	0			88
89	Medico-Chirurgical College of Phila.—R.									1	0	1	0	2	0							1	0			1	0									1	1	8	2	1	0			89
90	Temple University, Med. Dept.—R.											1	0																									3	0					90
91	Univ. of Pennsylvania, Dept. of "												0	2	0					1	0									1	0	1	0			4	0	5	0	4	0			91
92	Univ. of Pittsburgh, School of "													1	0			1	0																							1	0	92
93	Woman's Med. Coll. of Pennsylvania.—R.											2	1	1	0									1	0	1	0	2	0	1	0			1	0	2	0	2	1					93
	SOUTH CAROLINA																																											
94	Med. Coll. of the State of South Carolina.—R.																	4	1	3	0																			1	0			94
	TENNESSEE																																											
95	Memphis Hospital Medical College.—R.	2	7			14	3											2	1									2	0	0	1			11	17									95
96	Meharry Medical College.—R.	1	6			6	3											2	0	8	8			0	1	2	0					1	0	4	0			0	1					96
97	Lincoln Memorial Univ., Med. Dept.—R.							0	1									1	0													0	1											97
98	Univ. of Tennessee, Medical Dept.—R.	3	2			1	1											4	1	0	1									0	2	1	0	0	2					1	0			98
99	Univ. of West Tennessee, Med. Dept.—R.																	1	3																									99
100	Vanderbilt University, Med. Dept.—R.	2	2			4	1	2	0									4	0	1	0			1	0							3	0	3	0									100
	TEXAS																																											
101	Baylor University, College of Medicine.—R.																																											101
102	Texas Christian University, Med. Dept.—R.																																	0	1									102
103	Southern Methodist Univ., Med. Dept.—R.																																											103
104	University of Texas, Dept. of Med.—R.																																	1	0									104
	VERMONT																																											
105	Univ. of Vermont, College of Med.—R.											4	0																							2	0			8	3			105
	VIRGINIA																																											
106	Medical College of Virginia.—R.																																											106
107	Univ. of Virginia, Dept. of Med.—R.	1	1					1	0					1	0					2	0																	1	0					107
108	University College of Medicine.—R.	1	0									1	0							1	0																							108
	WISCONSIN																																											
109	Marquette University, Med. Dept.—R.																							3	2			3	1															109
110	Wisconsin Coll. of Phys. and Surgs.—R.																																											110
	CANADIAN																																											
111	Dalhousie Medical College.																																							1	0			111
112	Laval University, Medical Dept.																																			2	2			2	4			112
113	Manitoba Medical College.																																											113
114	McGill University, Medical Faculty.																																			1	0			2	0			114
115	Queens University, Medical Faculty.																							0	1											1	0			1	0			115
116	University of Toronto, Faculty of Medicine.							1	0															2	0															1	0			116
117	Western University, Medical Dept.																											1	0															117
118	Foreign Colleges							3	0	1	0					1	0							2	1															2	1			118
119	Miscellaneous Medical Colleges	3	4	2	2	2	2	2	1			0	1			1	1	2	2	2	0			7	15	0	1	1	0			6	3	1	2					1	2	5	1	119
	Total by States	149		13		131		176		37		69		18		51		104		183		21		596		93		129		56		94		154		78		196		220		153		
	Totals—Examined—Passed	79		10		105		159		37		58		18		46		82		168		17		474		90		124		45		86		122		64		153		191		152		
	Totals—Examined—Failed	70		3		26		17		0		11		0		5		22		15		4		122		3		5		11		8		32		14		43		29		1		
	Percentage of Failures	47.0		23.1		19.8		9.7		0.		15.8		0.		9.8		21.2		8.2		19.0		20.5		3.2		3.9		19.6		8.5		20.8		18.0		21.9		13.2		0.7		
		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		

R—Regular; H—Homeopathic; E—Eclectic.

EXAMINED BY STATE BOARDS DURING 1912—Continued

Marginal Number	22 Minnesota		23 Mississippi		24 Missouri		25 Montana		26 Nebraska		27 Nevada		28 New Hampshire		29 New Jersey		30 New Mexico		31 New York		32 North Carolina		33 North Dakota		34 Ohio		35 Oklahoma		36 Oregon		37 Pennsylvania		38 Rhode Island		39 South Carolina		40 South Dakota		41 Tennessee		42 Texas		43 Utah		44 Vermont		45 Virginia		46 Washington		47 West Virginia		48 Wisconsin		49 Wyoming		Totals:	Examined—Passed	Examined—Failed	Percentage of Failures	No. States Ex. In	Marginal Number
	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F						
60					1	0	1	0	40	4													1	0													1	0																			51	47	4	7.8	7	60
61									7	1																													1	0																	9	8	1	11.1	2	61
62									8	0																																															10	9	1	10.0	3	62
63													3	1					1	0													1	0											2	0											16	14	2	12.5	6	63
64																			30	20																																					54	34	20	37.0	4	64
65	1	0					2	0					1	0	2	0			64	8									2	0																											88	79	9	10.2	13	65
66															4	0			22	0																													1	0							31	31	0	0.	7	66
67															1	1			7	6																																					17	9	8	47.1	4	67
68																			11	7																					1	0															19	12	7	36.8	2	68
69													1	0	5	0			61	17	1	0																																			86	69	17	19.8	5	69
70															4	0			13	5			2	0																																	30	25	5	16.7	7	70
71																			3	2																																					5	3	2	40.0	1	71
72																			20	5																																					25	20	5	20.0	1	72
73															7	0			70	6													1	0																							88	82	6	6.8	7	73
74																			31	10																													1	0							44	34	10	22.7	4	74
75			0	1																	8	12															2	2											7	10			1	2					54	24	30	55.6	8	75
76																					20	5															0	1																					27	21	6	22.2	3	76
77																			1	0					18	0																															20	20	0	0.	3	77
78																									10	3																															13	10	3	23.1	1	78
79																									6	2			0	1									2	0									0	1	0	2					24	18	6	25.0	9	79
80																			0	1					47	2																							2	0	1	0					60	56	4	6.7	10	80
81																									54	1			2	0																											58	57	1	1.7	3	81
82																									9	1																															10	9	1	10.0	1	82
83																			1	0					34	0													2	0																	37	37	0	0.	3	83
84																											9	1	0	1																											12	10	2	16.7	3	84
85																													1	8																			1	0							10	2	8	80.0	2	85
86																													8	7																			5	1							22	14	8	36.4	3	86
87															2	0			5	1					1	0											1	0																			15	14	1	6.7	8	87
88					4	0	1	0			2	0	1	0	10	0			2	2	13	0			2	0			1	0			3	0	2	0	1	0					2	0					3	0	3	0	1	0			97	92	5	5.2	31	88
89					1	0									6	0									1	0							1	1									1	0	2	0											32	28	4	12.5	14	89
90																																																									4	4	0	0.	2	90
91	2	0			1	0	1	0							7	0			6	2					4	0							1	0					1	0	2	0	1	0			3	0					2	0			59	56	3	5.1	24	91
92							1	0											0	1					1	0			1	0																					4	0	0	1			12	10	2	16.7	9	92
93	1	1													1	0			4	4	1	0																			1	0			1	0			1	0			1	0			31	24	7	22.6	17	93
94	0	1																			1	0													57	13																					81	66	15	18.5	6	94
95			20	18																							6	3							0	2			36	2	2	3					1	0									153	96	57	37.3	12	95
96			0	2	2	4															0	2					6	5							0	2			32	3	8	3					4	1			1	0					119	78	41	34.5	18	96
97																					0	2			1	0									0	1			11	2							2	0									22	15	7	31.8	8	97
98			2	2																							1	0											20	1	1	0					0	1			1	0					48	35	13	27.1	14	98
99																					0	1					3	1							0	1			4	2							0	2									18	8	10	55.6	6	99
100			1	0	2	0	0	1											1	0	1	0					4	0							2	0			15	0	4	0							1	0							55	51	4	7.3	18	100
101																																										2															17	15	2	11.8	1	101
102																																										1															17	15	2	11.8	3	102
103																																										1															14	13	1	7.2	2	103
104																																										0															48	48	0	0.	2	104
105							1	0					3	0					1	1													2	1											32	1											59	53	6	10.2	8	105
106																			1	1	4	1													1	0											34	6			1	0					49	41	8	16.3	5	106
107			2	0															0	1	3	0							1	1											1	0					8	0			1	0					24	21	3	12.5	11	107
108																			1	0	11	1																									21	1			1	0					40	38	2	5.0	8	108
109					0	1	3	1															1	0			1	0											4	0													32	6	1	0	59	48	11	18.6	9	109
110					1	0																					1	0																									10	1			13	12	1	7.7	3	110
111																																																									1	1	0	0.	1	111
112													1	0																			2	1																							14	7	7	50.0	4	112
113																							1	0																																	1	1	0	0.	1	113
114																			3	1													1	0							1	0							1	0							10	9	1	10.0	6	114
115																			3	1									1	0													0	1									1	0			10	7	3	30.0	7	115
116	1	0																	3	0			0	1	1	0																															10	9	1	10.0	7	116
117																																																									1	1	0	0.	1	117
118					1	0	1	0					2	0	0	1			2	4					1	1																							0	1			1	0			26	17	9	34.6	13	118
119	3	1	9	16			2	0					1	0					0	1	0	4			1	0	6	1	1	1					0	2			9	7							2	3	2	2	1	1					148	72	76	51.4	29	119
	52		95		205		39		86		3		32		60		2		526		115		13		208		89		78		.....		41		120		12		180		147		17		43		132		64		78		83		6		5257	....	....	....		
	47 5 9.6		53 42 44.2		177 28 13.7		35 4 10.3		76 10 11.6		3 0 0.		28 4 12.5		54 6 10.0		2 0 0.		406 120 22.8		81 34 29.6		10 3 23.1		197 11 5.3		70 19 21.3		52 26 33.3		....		33 8 19.5		88 32 26.7		12 0 0.		162 18 10.0		136 11 7.5		16 1 5.9		41 2 4.7		103 29 22.0		51 13 20.3		58 20 25.6		65 18 21.7		6 0 0.		....	4342	.... 915	.... 17.4		
	22		23		24		25		26		27		28		29		30		31		32		33		34		35		36		37		38		39		40		41		42		43		44		45		46		47		48		49							

Marginal Number	NAME OF COLLEGE	Graduates of All Years.					Graduates of 1908-1912.					Graduates of 1907 and Previous.					Graduates of 1912.					Marginal Number
		Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States	Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States	Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States	Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States	
	ALABAMA																					
1	Birmingham Medical College.—R.	49	27	22	44.9	5	48	26	22	45.8	4	1	1	0	0.	1	33	15	18	54.5	3	1
	University of Alabama, Medical Dept.—R.	49	37	12	24.5	6	48	37	11	22.9	5	1	0	1	100.0	1	38	30	8	21.1	4	2
	ARKANSAS																					
	College of Physicians and Surgeons.—R.	7	3	4	57.1	3	7	3	4	57.1	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3
	University of Arkansas, Medical Dept.—R.	59	46	13	22.0	5	56	43	13	23.2	5	3	3	0	0.	2	53	41	12	22.6	5	4
	CALIFORNIA																					
5	College of P. and S., Los Angeles.—R.	32	29	3	9.4	6	32	29	3	9.4	6	.....	.....	.....	.....	.....	25	22	3	12.0	3	5
6	College of P. and S., San Francisco.—R.	10	5	5	50.0	4	9	4	5	55.6	3	1	1	0	0.	1	3	1	2	66.7	1	6
7	Cooper Medical College.—R.	34	31	3	8.8	2	33	31	2	6.1	2	1	0	1	100.0	1	31	29	2	6.5	2	7
8	Hahnemann Medical College of the Pacific.—H.	4	3	1	25.0	1	4	3	1	25.0	1	.....	.....	.....	.....	.....	4	3	1	25.0	1	8
9	Oakland College of Medicine and Surgery.—R.	7	6	1	14.3	1	7	6	1	14.3	1	.....	.....	.....	.....	.....	7	6	1	14.3	1	9
10	University of California, Medical Dept.—R.	35	35	0	0.	3	34	34	0	0.	2	1	1	0	0.	1	26	26	0	0.	1	10
	COLORADO																					
11	University of Colorado, Medical Dept.—R.	47	44	3	6.4	10	44	43	1	2.3	10	3	1	2	66.7	2	21	21	0	0.	4	11
	CONNECTICUT																					
12	Yale Medical College.—R.	30	28	2	6.7	6	28	26	2	7.1	5	2	2	0	0.	2	15	15	0	0.	2	12
	DISTRICT OF COLUMBIA																					
13	George Washington University.—R.	47	40	7	14.9	16	44	37	7	15.9	14	3	3	0	0.	3	25	23	2	8.0	9	13
14	Georgetown University, School of Medicine.—R.	26	21	5	19.2	9	24	20	4	16.7	7	2	1	1	50.0	2	8	7	1	12.5	2	14
15	Howard University, Medical Dept.—R.	48	35	13	27.1	16	41	32	9	22.0	13	7	3	4	57.1	4	22	18	4	18.2	9	15
	GEORGIA																					
16	Atlanta College of Physicians and Surgeons.—R.	79	73	6	7.6	8	78	73	5	6.4	7	1	0	1	100.0	1	72	68	4	5.6	5	16
17	Atlanta School of Medicine.—R.	65	55	10	15.4	9	65	55	10	15.4	9	.....	.....	.....	.....	.....	59	53	6	10.2	8	17
18	Georgia College of Eclectic Med. and Surg.—E.	4	1	3	75.0	3	3	0	3	100.0	2	1	1	0	0.	1	3	1	2	66.7	2	18
19	South. College of Med. and Surg., Atlanta.—R.	5	3	2	40.0	2	5	3	2	40.0	2	.....	.....	.....	.....	.....	5	3	2	40.0	2	19
20	Medical College of Georgia.—R.	41	35	6	14.6	4	41	35	6	14.6	4	.....	.....	.....	.....	.....	38	34	4	10.5	3	20
	ILLINOIS																					
21	Bennett Medical College.—R.	98	75	23	23.5	16	93	71	22	23.7	14	5	4	1	20.0	4	65	57	8	12.3	10	21
22	Chicago College of Medicine and Surgery.—R.	166	134	32	19.3	24	161	131	30	18.6	23	5	3	2	40.0	3	120	105	15	12.5	16	22
23	College of Physicians and Surgeons.—R.	213	175	38	17.8	19	194	161	33	17.0	17	19	14	5	26.3	7	148	129	19	12.8	13	23
24	Hahnemann Medical College and Hospital.—H.	63	44	19	30.1	19	47	34	13	27.7	12	16	10	6	37.5	10	32	23	9	28.1	5	24
25	Hering Medical College.—H.	9	6	3	33.3	6	9	6	3	33.3	6	.....	.....	.....	.....	.....	5	3	2	40.0	3	25
26	Jenner Medical College.—R.	14	11	3	21.4	3	12	10	2	16.7	3	2	1	1	50.0	1	9	8	1	11.1	2	26
27	Northwestern University Medical School.—R.	139	131	8	5.8	22	130	122	8	6.2	20	9	9	0	0.	8	72	68	4	5.6	12	27
28	Rush Medical College.—R.	166	158	8	4.8	25	137	134	3	2.2	21	29	24	5	17.2	13	90	88	2	2.2	15	28
	INDIANA																					
29	Indiana University, School of Medicine.—R.	50	49	1	2.0	5	50	49	1	2.0	5	.....	.....	.....	.....	.....	45	45	0	0.	1	29
	IOWA																					
30	Drake University, College of Medicine.—R.	21	21	0	0.	6	19	19	0	0.	4	2	2	0	0.	2	17	17	0	0.	2	30
31	State University of Iowa, College of Med.—R.	49	44	5	10.2	8	39	38	1	2.6	5	10	6	4	40.0	5	35	35	0	0.	2	31
32	State University of Iowa, Homeo. Dept.—H.	5	5	0	0.	2	4	4	0	0.	1	1	1	0	0.	1	4	4	0	0.	1	32
	KANSAS																					
33	Kansas Medical College.—R.	15	15	0	0.	5	12	12	0	0.	3	3	3	0	0.	2	9	9	0	0.	1	33
34	University of Kansas, School of Medicine.—R.	15	13	2	13.3	4	15	13	2	13.3	4	.....	.....	.....	.....	.....	15	13	2	13.3	4	34
	KENTUCKY																					
35	University of Louisville, Medical Dept.—R.	188	154	34	18.1	34	177	146	31	17.5	31	11	8	3	27.3	9	119	106	13	10.9	20	35
	LOUISIANA																					
36	Tulane University, Medical Dept.—R.	154	140	14	9.1	16	147	135	12	8.2	12	7	5	2	28.6	6	125	120	5	4.0	10	36
	MAINE																					
37	Medical School of Maine.—R.	18	16	2	11.1	4	15	15	0	0.	4	3	1	2	66.7	2	9	9	0	0.	3	37
	MARYLAND																					
38	Baltimore Medical College.—R.	59	44	15	25.4	18	42	34	8	19.0	13	17	10	7	41.2	13	22	20	2	9.1	6	38
39	College of Physicians and Surgeons.—R.	75	58	17	22.7	19	65	50	15	23.1	14	10	8	2	20.0	8	42	33	9	21.4	8	39
40	Johns Hopkins University, Medical Dept.—R.	95	90	5	5.3	19	86	81	5	5.8	15	9	9	0	0.	8	64	62	2	3.1	11	40
41	Maryland Medical College.—R.	81	35	46	56.8	12	78	33	45	57.7	12	3	2	1	33.3	2	52	22	30	57.7	10	41
42	University of Maryland, School of Medicine.—R.	99	86	13	13.1	19	85	74	11	12.9	16	14	12	2	14.3	11	64	57	7	10.9	13	42
	MASSACHUSETTS																					
43	Boston University, School of Medicine.—H.	30	29	1	3.3	6	26	25	1	3.8	6	4	4	0	0.	3	21	20	1	4.8	5	43
44	College of Physicians and Surgeons.—R.	43	31	12	28.0	10	41	30	11	26.9	10	2	1	1	50.0	2	14	12	2	14.3	5	44
45	Harvard Medical School—R.	85	75	10	11.8	20	73	64	9	12.3	18	12	11	1	8.3	8	31	28	3	9.7	11	45
46	Tufts College Medical School—R.	119	107	12	10.1	11	107	99	8	7.5	7	12	8	4	33.3	8	61	58	3	4.9	6	46
	MICHIGAN																					
47	Detroit College of Medicine—R.	44	43	1	2.3	6	39	39	0	0.	2	5	4	1	20.0	4	38	38	0	0.	1	47
48	Univ. of Mich., Dept. of Med. and Surg.—R.	107	105	2	1.9	16	93	93	0	0.	11	14	12	2	14.3	10	82	82	0	0.	6	48
49	Univ. of Mich., Homeopathic College.—H.	19	19	0	0.	3	19	19	0	0.	4	.....	.....	.....	.....	.....	18	18	0	0.	3	49
	MINNESOTA																					
50	Univ. of Minn., College of Med and Surg.—R.	52	50	2	3.8	7	39	39	0	0.	5	13	11	2	15.4	6	31	31	0	0.	3	50
	MISSOURI																					
51	American Medical College.—E.	61	43	18	29.5	8	57	40	17	29.8	6	4	3	1	25.0	4	53	38	15	28.3	6	51
52	Barnes Medical College.—R.	39	20	19	48.7	16	18	11	7	38.9	8	21	9	12	57.1	14	.....	.....	.....	.....	.....	52
53	Eclectic Medical University, Kansas City.—E.	13	13	0	0.	1	13	13	0	0.	1	.....	.....	.....	.....	.....	11	11	0	0.	1	53
54	Ensworth Medical College.—R.	13	5	8	61.5	6	12	5	7	58.3	5	1	0	1	100.0	1	7	4	3	42.9	2	54
55	Kansas City Hahnemann Med. College.—H.	15	10	5	33.3	5	14	9	5	35.7	5	1	1	0	0.	1	12	9	3	25.0	1	55
56	St. Louis University, School of Medicine.—R.	91	88	3	3.3	16	88	86	2	2.3	15	3	2	1	33.3	3	77	75	2	2.6	10	56
57	St. Louis College of Phys. and Surg.—R.	37	16	21	56.7	18	27	11	16	59.2	12	10	5	5	50.0	9	5	3	2	40.0	1	57
58	University Medical College, Kansas City.—R.	46	39	7	15.2	12	39	32	7	18.0	7	7	7	0	0.	7	34	28	6	17.6	5	58
59	Washington University, Medical Dept.—R.	67	65	2	3.0	12	57	56	1	1.8	11	10	9	1	10.0	4	47	47	0	0.	4	59

R—Regular; H—Homeopathic; E—Eclectic.

Marginal Number	NAME OF COLLEGE	Graduates of All Years.					Graduates of 1908-1912.					Graduates of 1907 and Previous.					Graduates of 1912.					Marginal Number
		Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States	Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States	Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States	Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States	
	NEBRASKA																					
60	John A. Creighton Medical College.—R.	55	50	5	9.1	8	51	47	4	7.8	3	4	3	1	25.0	4	44	42	2	4.5	6	60
61	Lincoln Medical College.—E.	12	10	2	16.7	3	9	8	1	11.1	2	3	2	1	33.3	2	7	6	1	14.3	1	61
62	University of Nebraska, College of Med.—R.	14	13	1	7.2	6	10	9	1	10.0	3	4	4	0	0.	4	8	8	0	0.	2	62
	NEW HAMPSHIRE																					
63	Dartmouth Medical School.—R.	17	15	2	11.8	6	16	14	2	12.5	6	1	1	0	0.	1	8	7	1	12.5	4	63
	NEW YORK																					
64	Albany Medical College.—R.	56	36	20	35.7	5	54	34	20	37.0	4	2	2	0	0.	2	29	21	8	27.6	1	64
5	Columbia Univ., College of Phys and Surg.—R.	105	95	10	9.5	17	88	79	9	10.2	13	17	16	1	5.9	11	57	52	5	8.8	2	65
6	Cornell University Medical College.—R.	34	34	0	0.	8	31	31	0	0.	7	3	3	0	0.	3	8	8	0	0.	1	66
7	Eclectic Med. Coll. of City of New York.—E.	17	9	8	47.1	4	17	9	8	47.1	4	....	....	....	....	....	10	6	4	40.0	2	67
8	Fordham University, School of Medicine.—R.	19	12	7	36.8	2	19	12	7	36.8	2	....	....	....	....	....	9	6	3	33.3	1	68
9	Long Island College Hospital.—R.	93	75	18	19.4	10	86	69	17	19.8	5	7	6	1	14.3	6	38	29	9	23.7	3	69
0	New York Homeo. Med. Coll. and Hosp.—H.	33	28	5	15.2	8	30	25	5	16.7	7	3	3	0	0.	3	15	14	1	6.7	4	70
1	New York Med. Coll. and Hosp. for Women.—H.	5	3	2	40.0	1	5	3	2	40.0	1	....	....	....	....	....	2	2	0	0.	1	71
2	Syracuse University, College of Medicine.—R.	30	25	5	16.7	5	25	20	5	20.0	1	5	5	0	0.	4	13	11	2	15.4	1	72
3	University and Bellevue Hosp. Med. Coll.—R.	90	83	7	7.8	8	88	82	6	6.8	7	2	1	1	50.0	2	62	58	4	6.5	2	73
4	University of Buffalo, Medical Dept.—R.	50	38	12	24.0	6	44	34	10	22.7	4	6	4	2	33.3	4	31	23	8	25.8	2	74
	NORTH CAROLINA																					
75	Leonard School of Medicine.—R.	56	24	32	57.1	8	54	24	30	55.6	8	2	0	2	100.0	2	36	23	13	36.1	7	75
76	North Carolina Medical College.—R.	29	22	7	24.1	4	27	21	6	22.2	3	2	1	1	50.0	2	25	19	6	24.0	3	76
	OHIO																					
77	Cleveland College of Phys. and Surg.—R.	20	20	0	0.	3	20	20	0	0.	3	....	....	....	....	....	18	18	0	0.	1	77
78	Cleveland-Pulte Medical College.—H.	13	10	3	23.1	1	13	10	3	23.1	1	....	....	....	....	....	13	10	3	23.1	1	78
79	Eclectic Medical College.—E.	28	22	6	21.4	10	24	18	6	25.0	9	4	4	0	0.	3	17	15	2	11.8	6	79
80	Ohio-Miami Medical College.—R.	60	56	4	6.7	10	60	56	4	6.7	10	....	....	....	....	....	53	51	2	3.8	5	80
81	Starling-Ohio Medical College.—R.	58	57	1	1.7	2	58	57	1	1.7	3	....	....	....	....	....	55	54	1	1.8	1	81
82	Toledo Medical College.—R.	10	9	1	10.0	1	10	9	1	10.0	1	....	....	....	....	....	10	9	1	10.0	1	82
83	Western Reserve University, Med. Dept.—R.	38	38	0	0.	4	37	37	0	0.	3	1	1	0	0.	1	35	35	0	0.	2	83
	OKLAHOMA																					
84	University of Oklahoma, School of Medicine—R.	12	10	2	16.7	3	12	10	2	16.7	3	....	....	....	....	....	10	9	1	10.0	1	84
	OREGON																					
85	Willamette University, Medical Dept.—R.	12	2	10	83.3	3	10	2	8	80.0	2	2	0	2	100.0	2	8	1	7	87.5	1	85
86	University of Oregon, Medical Dept.—R.	25	14	11	44.0	4	22	14	8	36.4	3	3	0	3	100.0	3	14	8	6	42.8	2	86
	PENNSYLVANIA																					
87	Hahnemann	22	21	1	4.5	13	15	14	1	6.7	8	7	7	0	0.	6	6	6	0	0.	4	87
88	Jefferson Me	124	115	9	7.3	34	97	92	5	5.2	31	27	23	4	14.8	17	65	62	3	4.6	22	88
89	Medico-Chirurgical College of Philadelphia.—R.	40	34	6	15.0	18	32	28	4	12.5	14	8	6	2	25.0	5	20	17	3	15.0	7	89
90	Temple University, Medical Dept.—R.	4	4	0	0.	2	4	4	0	0.	2	....	....	....	....	....	3	3	0	0.	1	90
91	University of Pennsylvania, Dept. of Med.—R.	79	72	7	8.9	28	59	56	3	5.1	24	20	16	4	20.0	10	24	23	1	4.2	13	91
92	Univ. of Pittsburgh, School of Medicine.—R.	12	10	2	16.7	9	12	10	2	16.7	9	....	....	....	....	....	5	5	0	0.	2	92
93	Woman's Med. Coll. of Pennsylvania.—R.	38	30	8	21.1	21	31	24	7	22.6	17	7	6	1	14.3	6	13	10	3	23.1	7	93
	SOUTH CAROLINA																					
94	Med. Coll. of the State of South Carolina.—R.	86	71	15	17.4	6	81	66	15	18.5	6	5	5	0	0.	3	67	59	8	11.9	5	94
	TENNESSEE																					
95	Memphis Hospital Medical College.—R.	163	104	59	36.2	14	153	96	57	37.3	12	10	8	2	20.0	8	110	79	31	28.2	11	95
96	Meharry Medical College.—R.	132	81	51	38.6	18	119	78	41	34.5	18	13	3	10	76.9	6	84	58	26	31.0	15	96
97	Lincoln Memorial Univ., Medical Dept.—R.	29	19	10	34.5	13	22	15	7	31.8	8	7	4	3	42.8	6	16	12	4	25.0	4	97
98	University of Tennessee, Medical Dept.—R.	51	36	15	29.4	15	48	35	13	27.1	14	3	1	2	66.7	2	33	26	7	21.2	10	98
	University of West Tennessee, Medical Dept.—R.	20	9	11	55.0	6	18	8	10	55.6	6	2	1	1	50.0	1	9	6	3	33.3	4	99
	Vanderbilt University, Medical Dept.—R.	61	56	5	8.2	19	55	51	4	7.3	18	6	5	1	16.7	4	39	37	2	5.1	15	100
	TEXAS																					
101	Baylor University, College of Medicine—R.	17	15	2	11.8	1	17	15	2	11.8	1	....	....	....	....	....	17	15	2	11.8	1	101
102	Texas Christian University, Medical Dept.—R.	18	16	2	11.1	3	17	15	2	11.8	3	1	1	0	0.	1	16	15	1	6.3	2	102
103	Southern Methodist Univ., Medical Dept.—R.	14	13	1	7.2	2	14	13	1	7.2	2	....	....	....	....	....	13	12	1	7.7	2	103
104	University of Texas, Dept. of Medicine.—R.	49	49	0	0.	2	48	48	0	0.	2	1	1	0	0.	1	45	45	0	0.	1	104
	VERMONT																					
105	University of Vermont, College of Medicine.—R.	63	56	7	11.1	9	59	53	6	10.2	8	4	3	1	25.0	4	33	32	1	3.0	4	105
	VIRGINIA																					
106	Medical College of Virginia.—R.	50	41	9	18.0	5	49	41	8	16.3	5	1	0	1	100.0	1	39	35	4	10.3	4	106
107	University of Virginia, Dept. of Medicine.—R.	32	29	3	9.4	15	24	21	3	12.5	11	8	8	0	0.	6	7	7	0	0.	2	107
108	University College of Medicine.—R.	42	39	3	7.1	9	40	38	2	5.0	8	2	1	1	50.0	2	34	33	1	2.9	5	108
	WISCONSIN																					
109	Marquette University, Medical Dept.—R.	61	50	11	18.0	11	59	48	11	18.6	9	2	2	0	0.	2	47	41	6	12.8	7	109
110	Wisconsin College of Physicians and Surgs.—R.	14	13	1	7.2	4	13	12	1	7.7	3	1	1	0	0.	1	13	12	1	7.7	3	110
	CANADIAN																					
111	Dalhousie Medical College.	1	1	0	0.	1	1	1	0	0.	1	....	....	....	....	....	....	....	....	....	....	111
112	Laval University, Medical Dept.	19	9	10	52.6	8	14	7	7	50.0	4	5	2	3	60.0	4	2	1	1	50.0	2	112
113	Manitoba Medical College.	3	3	0	0.	3	1	1	0	0.	1	2	2	0	0.	2	1	1	0	0.	1	113
114	McGill University, Medical Faculty.	21	20	1	4.8	10	10	9	1	10.0	6	11	11	0	0.	7	4	3	1	25.0	3	114
115	Queens University, Medical Faculty.	12	7	5	41.7	8	10	7	3	30.0	7	2	0	2	100.0	2	3	1	2	66.7	3	115
116	University of Toronto, Faculty of Medicine.	17	15	2	11.8	11	10	9	1	10.0	7	7	6	1	14.3	5	....	....	....	....	....	116
117	Western University, Medical Dept.	1	1	0	0.	1	1	1	0	0.	1	....	....	....	....	....	1	1	0	0.	1	117
118	Foreign Colleges	88	53	35	39.8	25	26	17	9	34.6	13	62	36	26	41.9	22	1	1	0	0.	1	118
119	Miscellaneous Medical Colleges	375	224	151	40.3	45	148	72	76	51.4	29	227	152	75	33.0	40	27	18	9	33.3	5	119
	Undergraduates	253	165	88	34.8	5	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	120
	Totals	6353	5110	1243	17.8	....	5257	4342	915	17.4	....	843	603	240	29.7	....	3625	3172	453	12.5		

*R—Regular; H—Homeopathic; E—Eclectic.

CONTINUED FROM PAGE 1623

shows that 3,625 or 57.2 per cent. of all candidates examined during the year graduated in 1912, including twelve who graduated in Canada and other foreign colleges. Educational statistics show that the medical colleges of the United States graduated 4,483 students last year; therefore, 80.9 per cent. of all graduates in 1912 took examinations for license during that year. These figures would be changed somewhat if the Pennsylvania figures could have been included. In some of the states graduates in medicine are allowed to serve hospital internships without first becoming licensed practitioners, which doubtless accounts for some of the remaining 20 per cent. Of those examined 453, or 12.5 per cent., failed.

Table C permits of an interesting study of medical schools from the standpoint of state board examinations. For some colleges a marked improvement in teaching methods is apparent from the fact that while the percentages of failures are high for old practitioners they are lower for recent graduates and still lower for graduates of 1912. Other colleges, however, show no improvement either for recent graduates, or for graduates of 1912. In the latter instance a knowledge of these colleges, based on a careful study, which included inspections of the colleges, bears out what the figures of this table indicate, that some of these institutions are teaching medicine no better to-day than they did ten or more years ago.

TABLE D.—Colleges Grouped by States
Showing the Number Examined and Percentage of Failures

All Colleges of	Graduates.								State Rank According to the Number Examined.	Rank According to Successes at Examinations.
	Of All Years.		Of 1908 to 1912.		Of 1907 & Prev.		Of 1912.			
	Number Examined.	Per Cent. Failed.	Number Examined.	Per Cent. Failed.	Number Examined.	Per Cent. Failed.	Number Examined.	Per Cent. Failed.		
Alabama	98	34.7	96	34.4	2	50.0	71	36.6	16	28
Arkansas	66	25.8	63	27.0	3	0.	53	22.6	21	26
California	122	10.7	119	10.1	3	33.3	96	9.4	14	11
Colorado	47	6.4	44	2.3	3	66.7	21	0.	25	5
Connecticut	30	6.7	28	7.1	2	0.	15	0.	27	7
District of Columbia	121	20.7	109	18.3	12	41.7	55	12.7	15	23
Georgia	194	13.9	192	13.5	2	50.0	177	10.2	9	16
Illinois	868	15.3	783	14.6	85	23.5	541	10.9	1	17
Indiana	50	2.0	50	2.0	....	.....	45	0.	24	2
Iowa	75	6.7	62	1.6	13	30.8	56	0.	20	7
Kansas	30	6.7	27	7.5	3	0.	24	8.3	27	7
Kentucky	188	18.1	177	17.5	11	27.3	119	10.9	10	22
Louisiana	154	9.1	147	8.2	7	28.6	125	4.0	12	8
Maine	18	11.1	15	0.	3	66.7	9	0.	28	12
Maryland	409	23.5	356	23.6	53	22.6	244	20.5	4	25
Massachusetts	277	12.6	247	11.7	30	20.0	127	7.1	7	15
Michigan	170	1.8	151	0.	19	15.8	138	0.	11	1
Minnesota	52	3.8	39	0.	13	15.4	31	0.	23	3
Missouri	382	21.7	325	19.1	57	36.8	246	12.6	5	24
Nebraska	81	9.9	70	8.6	11	18.2	59	5.1	19	9
New Hampshire	17	11.8	16	12.5	1	0.	8	12.5	29	13
New York	532	17.7	487	18.3	45	11.1	274	16.1	2	21
North Carolina	85	45.9	81	44.4	4	75.0	61	31.3	18	29
Ohio	227	6.6	222	6.8	5	0.	201	4.5	8	6
Oklahoma	12	16.7	12	16.7	....	.....	10	10.0	30	19
Oregon	37	56.7	32	50.0	5	100.0	22	59.1	26	30
Pennsylvania	319	10.3	250	8.8	69	15.8	136	7.4	6	10
South Carolina	86	17.4	81	18.5	5	0.	67	11.9	17	20
Tennessee	456	33.3	415	31.8	41	46.3	291	25.1	3	27
Texas	98	5.1	96	5.2	2	0.	91	4.4	16	4
Vermont	63	11.1	59	10.2	4	25.0	33	3.0	22	12
Virginia	124	12.1	113	11.5	11	18.2	80	6.2	13	14
Wisconsin	75	16.0	72	16.7	3	0.	60	11.7	20	18
Totals Examined in 1912	5563	17.1	5036	16.2	527	25.2	3586	12.3	....	....

This table gives data relating to the group of colleges in each state. For example, it shows that of all the medical schools in New York 532 graduates of various years were examined by state boards during 1912, of which number 17.7 per cent. failed. Of the 487 who graduated in recent years, however, (1908 to 1912 inclusive), 18.3 per cent. failed; of the 45 who graduated previous to 1908, 11.1 per cent. failed, and of the 274 graduates of 1912 16.1 per cent. failed.

The ninth column gives the rank of each state group of colleges according to the number of applicants. The Illinois group of colleges leads, having 868 graduates examined by state boards during 1912, followed by New York with 532, Tennessee with 456, Maryland with 409 and Missouri with 382.

The tenth column gives the rank of each state group of colleges according to the success of the graduates at state board examinations. It is interesting to compare the figures of these two last columns. While the Illinois group ranks first according to the number examined it ranks as the seventeenth in the success of its graduates at examinations. While New York ranks second as to the number examined, it ranks as the twenty-first in the success of its graduates at examinations and while Tennessee ranks third as to the number examined, it ranks as the twenty-seventh in the success of its graduates at examinations.

Total Results.
Comparison with Previous Years.

Year.	Table A				B		C		A		K	
	Total Examined.	Examined—Passed.	Examined—Failed.	Percentage Failed.	Recent Grads. Examined.	Percentage Failed.	Older Prac. Examined.	Percentage Failed.	Non-Grads. Examined.	Percentage Failed.	Regist. Without Written Examination	Total Registered.
1904	7035	5672	1363	19.3	4773	14.1	579	29.7	515	52.6	999	6671
1905	7170	5680	1490	20.8	6054	16.2	690	37.7	472	61.9	394	6074
1906	8035	6368	1667	20.7	6250	16.4	793	27.1	703	51.3	1497	7865
1907	7271	5723	1548	21.3	5922	15.1	675	27.7	674	69.6	1426	7149
1908	7770	6084	1686	21.7	6477	17.8	796	31.5	494	56.8	1276	7360
1909	7287	5857	1430	19.6	5891	15.4	958	30.0	438	54.1	1373	7230
1910	7004	5712	1292	18.4	5678	14.9	973	29.1	353	45.6	1640	7352
1911	6960	5578	1382	19.9	5685	17.2	945	29.4	330	38.5	1246	6824
1912	6353	5110	1243	17.8	5257	17.4	843	29.7	253	34.8	1257	6723*

* Includes 369 licensed in Pennsylvania.

Results for Larger Colleges
Comparison with Previous Years (Table E).

Year.	Colleges Represented.	Total Examined.	Per Cent. Failed.	Colleges, 100 or More Examined.	Total Examined.	Per Cent. Failed.	Colleges, 50 to 100 Examined.	Total Examined.	Per Cent. Failed.	Colleges, Less than 50 Examined.	Total Examined.	Per Cent. Failed.	Foreign, Misc., and Non-grads. Exam'd.	Per Cent. Failed.
1904	149	6241	16.4	14	2271	11.7	28	1817	16.9	107	2153	31.0	794	43.1
1905	153	6411	18.3	14	2350	12.4	37	2543	17.7	102	1518	28.9	759	51.1
1906	151	6938	17.3	16	2504	14.5	34	2381	16.9	96	2053	21.3	1097	42.5
1907	146	6207	13.8	12	1626	12.7	36	2578	14.7	98	2003	13.6	1064	55.5
1908	137	6491	17.2	19	2596	15.6	26	1825	15.5	92	2070	20.8	1279	14.6
1909	134	6341	16.2	17	2476	16.9	27	1920	12.3	90	1945	19.2	946	42.6
1910	121	5953	15.3	17	2379	13.3	25	1791	13.7	79	1783	19.3	1051	36.5
1911	119	6062	17.2	18	2508	11.0	28	1895	17.1	73	1659	20.1	898	37.6
1912	110	5563	17.1	12	1776	15.6	31	2148	17.3	67	1639	18.5	790	37.0

STUDY OF TOTALS AND PERCENTAGES

A study of totals and percentages as compared with previous years is of interest. The total examined and the percentage of failures, shown in Table A, are the lowest since the compiling of these statistics was begun in 1904. The total examined in 1912 shows a decrease of 1,682 below 1906, when 8,035 candidates were examined. By all methods—examination, reciprocity, under exemption, etc.—6,723 physicians were licensed during 1912, or 101 less than in 1911 and 1,142 less than in 1906, when 7,865 physicians were licensed.

Other deductions from the larger tables have been made and are presented in Tables D to M, which are worthy of careful study.

STUDY OF COLLEGES BY STATE GROUPS

Table D is based on the first four large tables and gives the results for the group of colleges located in each state. It shows what states are furnishing the largest number of physicians and the failure percentages indicate what kind of training these colleges are furnishing so far as may be judged from the failures of their graduates before state boards. By comparing the percentages of the first column with the other columns it can be seen whether there has been any reduction in failures for graduates of recent years. Of the thirty-three states having medical colleges which grant degrees, fifteen furnished 100 or more candidates examined. Of these fifteen groups of colleges, three had failure percentages of less than 10 per cent.; eight had failure percentages between 10 and 20, and four had over 20 per cent. of failures. The highest failure percentage was obtained by the Oregon group with 56.7. Of the states having 100 or more candidates examined, however, the highest failure percentage was obtained by the Tennessee group, which had 33.3 per cent., followed by the Maryland group with 23.5 per cent., and the Missouri group with 21.7 per cent. of their graduates failing. Other deductions are given with the table.

STUDY OF LARGER COLLEGES

Table D, is also based on the three large tables and gives the results of state board examinations as they affect the forty-three largest medical colleges. Although these colleges represent 39 per cent. of the medical colleges in the United States having graduates examined, they furnished 70.5 per cent. of all the candidates for license coming from medical schools of the United States. This table shows that the graduation of large classes by a medical college does not prove excellence of teaching since several colleges having 100 or more examined have very high failure percentages and this holds true even for the graduates of 1912. In fact, the larger the college from the standpoint of the number of students and graduates the more serious is inferior teaching ability, indicated by a high failure percentage. In fairness to the medical student, and in the interests of the public, such schools should greatly strengthen their teaching facilities or reduce the size of their classes.

Altogether for these schools 648 or 16.5 per cent. failed, as compared with 18.5 per cent. of failures for the 1,639 candidates from the sixty-seven colleges having less than fifty each examined.

Besides the graduates of the medical colleges of the United States 790 candidates were examined, made up of seventy-four graduates of Canadian colleges, 88 foreign college graduates, 375 graduates of miscellaneous colleges and 253 non-graduates. Of these 790 candidates, 292 or 37 per cent. failed.

TABLE E—COLLEGES HAVING FIFTY OR MORE EXAMINED

TABLE SHOWS TOTAL NUMBER EXAMINED, TOTAL NUMBER PASSED, TOTAL NUMBER FAILED, PERCENTAGE OF FAILURES AND NUMBER OF STATES IN WHICH EACH COLLEGE HAD REPRESENTATIVES

College	Graduates, All Years.					Graduates of 1908-1912.					Graduates, 1907 and Previous.					Graduates of 1912.					Marginal Number.
	Total Examined.	Number Passed.	Number Failed.	Per Cent. of Failures.	No. States.	Total Examined.	Number Passed.	Number Failed.	Per Cent. of Failures.	No. States.	Total Examined.	Number Passed.	Number Failed.	Per Cent. of Failures.	No. States.	Total Examined.	Number Passed.	Number Failed.	Per Cent. of Failures.	No. States.	
College of Physicians and Surgeons, Chicago	213	175	38	17.8	19	194	161	33	17.0	17	19	14	5	26.3	7	148	129	19	2.8	13	23
University of Louisville, Medical Department	188	154	34	18.1	34	177	146	31	17.5	31	11	8	3	27.3	9	119	106	13	10.9	20	35
Chicago College of Medicine and Surgery	166	134	32	19.3	24	161	131	30	18.6	23	5	3	2	40.0	3	120	105	15	12.5	16	22
Rush Medical College	166	158	8	4.8	25	137	134	3	2.2	21	29	24	5	17.2	13	90	88	2	2.2	15	28
Memphis Hospital Medical College	163	104	59	36.2	14	153	96	57	37.3	12	10	8	2	20.0	8	110	79	31	28.2	11	95
Tulane University, Medical Department	154	140	14	9.1	16	147	135	12	8.2	12	7	5	2	28.6	6	125	120	5	4.0	10	36
Northwestern University Medical School	139	131	8	5.8	22	130	122	8	6.2	20	9	9	0	0.	8	72	68	4	5.6	12	27
Meharry Medical College	132	81	51	38.6	18	119	78	41	34.5	18	13	3	10	76.9	6	84	58	26	31.0	15	96
Jefferson Medical College	124	115	9	7.3	34	97	92	5	5.2	31	27	23	4	14.8	17	65	62	3	4.6	22	88
Tufts College Medical School	119	107	12	10.1	11	107	99	8	7.5	7	12	8	4	33.3	8	61	58	3	4.9	6	46
University of Michigan, Dept. of Med and Surg.	107	105	2	1.9	16	93	93	0	0.	11	14	12	2	14.3	10	82	82	0	0.	6	48
Columbia University, College of Phys. and Surg.	105	95	10	9.5	17	88	79	9	10.2	13	17	16	1	5.9	11	57	52	5	8.8	3	65
University of Maryland, School of Medicine	99	86	13	13.1	19	85	74	11	12.9	10	14	12	2	14.3	11	64	57	7	10.9	13	42
Bennett Medical College	98	75	23	23.5	16	93	71	22	23.7	14	5	4	1	20.0	4	65	57	8	12.3	10	21
Johns Hopkins University, Medical Department	95	90	5	5.3	19	86	81	5	5.8	15	9	9	0	0.	8	64	62	2	3.1	11	40
Long Island College Hospital	83	75	18	19.4	10	86	69	17	19.8	5	7	6	1	14.3	6	38	29	9	23.7	3	69
St. Louis University, School of Medicine	91	88	3	3.3	16	88	86	2	2.3	15	3	2	1	33.3	3	77	75	2	2.6	10	56
University and Bellevue Hospital Medical Coll.	90	83	7	7.8	8	88	82	6	6.8	7	2	1	1	50.0	2	62	58	4	6.5	2	73
Medical College of the State of South Carolina	86	71	15	17.4	6	81	66	15	18.5	6	5	5	0	0.	3	67	59	8	11.9	5	94
Harvard Medical School	85	75	10	11.8	20	73	64	9	12.3	18	12	11	1	8.3	8	31	28	3	9.7	11	45
Maryland Medical College	81	35	46	56.8	12	78	33	45	57.7	12	3	2	1	33.3	2	52	22	30	57.7	10	41
Atlanta College of Physicians and Surgeons	79	73	6	7.6	8	78	73	5	6.4	7	1	0	1	100.0	1	72	68	4	5.6	5	16
University of Pennsylvania, Dept. of Medicine	79	72	7	8.9	28	59	56	3	5.1	24	20	16	4	20.0	10	24	23	1	4.2	13	91
College of Physicians and Surgeons, Baltimore	75	58	17	22.7	19	65	50	15	23.1	14	10	8	2	20.0	8	42	33	9	21.4	8	39
Washington University, Medical Department	67	65	2	3.0	12	57	56	1	1.8	11	10	9	1	10.0	4	47	47	0	0.	4	59
Atlanta School of Medicine	65	55	10	15.4	9	65	55	10	15.4	9	....	....	....	......	....	59	53	6	10.2	8	17
Hahnemann Medical Coll. and Hosp., Chicago	63	44	19	30.1	19	47	34	13	27.7	12	16	10	6	37.5	10	32	23	9	28.1	5	24
University of Vermont, College of Medicine	63	56	7	11.1	9	59	53	6	10.2	8	4	3	1	25.0	4	33	32	1	3.0	4	105
American Medical College, St. Louis	61	43	18	29.5	8	57	40	17	29.8	6	4	3	1	25.0	4	53	38	15	28.3	6	51
Vanderbilt University, Medical Department	61	56	5	8.2	19	55	51	4	7.3	18	6	5	1	16.7	4	39	37	2	5.1	15	100
Marquette University, Medical Department	61	50	11	18.0	11	59	48	11	18.6	9	2	2	0	0.	2	47	41	6	12.8	7	109
Ohio-Miami Medical College	60	56	4	6.7	10	60	56	4	6.7	10	....	....	....	......	....	53	51	2	3.8	5	80
University of Arkansas, Medical Department	59	46	13	22.0	5	56	43	13	23.2	5	3	3	0	0.	2	53	41	12	22.6	5	4
Baltimore Medical College	59	44	15	25.4	18	42	34	8	19.0	13	17	10	7	41.2	13	22	20	2	9.1	6	38
Starling-Ohio Medical College	58	57	1	1.7	3	58	57	1	1.7	3	....	....	....	......	....	55	54	1	1.8	1	81
Albany Medical College	56	36	20	35.7	5	54	34	20	37.0	4	2	2	0	0.	2	29	31	8	27.6	1	64
Leonard School of Medicine	56	24	32	57.1	8	54	24	30	55.6	8	2	0	2	100.0	2	36	23	13	36.1	7	75
John A. Creighton Medical College	55	50	5	9.1	8	51	47	4	7.8	7	4	3	1	25.0	4	44	42	2	4.5	6	60
University of Minnesota, Coll. of Med and Surg.	52	50	2	3.8	7	39	39	0	0.	5	13	11	2	15.4	6	31	31	0	0.	3	50
University of Tennessee, Medical Department	51	36	15	29.4	15	48	35	13	27.1	14	3	1	2	66.7	2	33	26	7	21.2	10	98
Indiana University, School of Medicine	50	49	1	2.0	5	50	49	1	2.0	5	....	....	....	......	....	45	45	0	0.	1	29
University of Buffalo, Medical Department	50	38	12	24.0	6	44	34	10	22.7	4	6	4	2	33.3	4	31	23	8	25.8	2	74
Medical College of Virginia	50	41	9	18.0	5	49	41	8	16.3	5	1	0	1	100.0	1	39	35	4	10.3	5	106
Totals	3924	3276	648	16.5	....	3567	3001	566	15.9	....	357	275	82	23.0	....	2572	2261	311	12.1		

This table is especially interesting, since it gives data relating to the 43 larger medical colleges arranged according to the number of graduates examined. This allows of comparisons between colleges having classes of nearly equal size. This time the College of Physicians and Surgeons of Chicago had the largest number, which position it held also in 1906 and 1907. In 1908 Jefferson Medical College had the highest number examined. In 1909, 1910 and 1911 the University of Louisville Medical Department had the largest number examined. The first place from the standpoint of the number examined, however, does not always mean first place from the standpoint of scholarship. Note the percentages of failures.

Of the 12 colleges having 100 or more examined, 6 have failure percentages of less than 10, while 6 stand out prominently with large failure percentages of 10.1, 17.8, 18.1, 19.3, 36.2 and 38.6. This marked difference holds for four of the colleges even in respect to recent graduates (of 1908 to 1912 inclusive) as well as for the graduates of 1912. The three highest failure percentages are for Meharry Medical College, 38.6 Memphis Hospital Medical College, 36.2, and the Chicago College of Medicine and Surgery, 19.3.

Of the 31 colleges having between 50 and 100 graduates examined, 12 had failure percentages of less than 10; 7 had failure percentages between 10 and 20, and 12 had failure percentages above 20, the 4 colleges having the highest failure percentages being Leonard School of Medicine, 57.1; Maryland Medical College, 56.8; Albany Medical College, 35.7, and Hahnemann Medical College, Chicago, 30.1.

The average percentage of failures for these larger colleges for graduates of 1907 and previous years was 23.0; for graduates of 1908 to 1912 inclusive (recent graduates), 15.9; for graduates of 1912, 12.1, and for graduates of all years, was 16.5. Of the 5,563 graduates of the 110 colleges in the United States which were examined by state boards in 1912 these larger schools furnished 3,924 or 70.5 per cent.

RESULTS IN HOME STATES AND ELSEWHERE

Table F is of much interest, because it shows for each college the results of examinations in the state in which the college is located, as compared with the results of examinations in other states, where there is less possibility of local influence. Of all recent graduates examined in 1912, 3,053, or about 60 per cent., took their license examinations in the states in which the colleges from which they graduated were located. Of this number 12.9 per cent. failed on the average, whereas, of the 1,983 candidates examined in other states, 21.3 per cent. failed. This would indicate that, as a rule, the student's chances of passing the license examination are better if he stays in the college's home state. In this connection it is interesting to note that no graduate of any of the Iowa colleges failed in the Iowa examinations, although of the graduates of these colleges who were examined in other states, 12.5 per cent. failed. In Colorado there were no failures for the Colorado college, although of the graduates of that school examined elsewhere 7.2 per cent. failed. The student's chances for success at home and elsewhere were equal or nearly so in five instances, these being for the colleges of Maine, Michigan, Minnesota, Nebraska and South Carolina; the student's hances were better in the home state in twenty-two instances, hile in six instances the student's chances were better if he vent to some other state.

TOTAL RESULTS FOR FIVE YEARS

Table G shows, so far as reports were obtainable, the numer registered and the number rejected in each state for ach of the past five years. A comparison of this table with he statistics in the last educational number of THE JOURNAL (Aug. 24, 1912, p. 653, Table 12), shows what would be xpected, that the states having the largest number of medical graduates examine the largest number of physicians. Now, only one state, New Mexico, will register candidates on presentation of diploma, without examination. This table shows *only those registered* by examination. Another table (K) shows the total registration by all methods.

CLASSIFICATION OF COLLEGES

Tables H, I and J give a classification of the medical colleges of the United States on the basis of the failures of their graduates at state board examinations during the past year. This classification is based on the examination of *recent graduates*, as shown in Table B. In forming conclusions, the caution already given should be observed, of noting the number examined, the number of states in which representatives appeared, the character of the board making the examination and the character of the examination. To form a more exact judgment one should compare the percentage of failures received by any college this year with those received in the classifications published in previous years. The exact ratings of the Pennsylvania colleges in these lists are uncertain owing to the omission of the Pennsylvania report since naturally the largest numbers from those colleges were examined in that state. Careful investigation shows that a college cannot be considered a high-grade medical school merely because its graduates occasionally show a low percentage or an absence of failures at state board examinations. The fact is, several poorly equipped and low-standard colleges appear in the first list. On the other hand, some good schools appear in the second list. For the majority of colleges, however, the classification is fairly accurate. A comparison of this classification with that based on the actual inspection of the colleges by the Council on Medical Education will be of interest (see THE JOURNAL A. M. A., Jan. 18, 1913, pp. 231-234.)

Table H gives a list of forty-one colleges which obtained failure percentages below 10 per cent., fifteen of which had no failures whatsoever and nine others had only 5 per cent. or less. The failure percentage for the entire group 1.2. Table I shows thirty-two colleges whose fai tages were between 10 and 20 per cent., of w nteen had percentages below the average

CLASSIFICATION OF COLLEGES
Comparison with Previous Years (Tables H, I, J).

	Colleges Having Less than 10 Per Cent.	Colleges Having 10 to 20 Per Cent.	Colleges Having Above 20 Per Cent.	Unclassified Colleges.	Total Colleges.
1904........	47	27	38	37	149
1905........	45	22	40	46	153
1906........	62	24	43	20	149
1907........	64	27	39	18	148
1908........	48	29	46	15	138
1909........	58	31	38	7	[illegible]
1910........	57	22	42	0	
1911........	47	21	46	5	
1912........	41	22	37	0	

TABLE G.—PHYSICIANS EXAMINED BY STATE BOARDS, 1908 TO 1912, INCLUSIVE

State.	1908		1909		1910		1911		1912		Totals.			
	Registered.	Rejected.	Registered.	Rejected.	Registered.	Rejected.	Registered.	Rejected.	Registered.	Rejected.	Examined.	Registered.	Rejected.	Percentage Rejected.
Alabama............	60	66	7	20	91	61	107	54	84	72	631	358	276	43.5
Arizona............	36	4	19	6	15	9	28	9	32	10	168	130	38	22.6
Arkansas............	120	85	111	131	96	28	108	30	124	27	860	559	301	35.0
California............	145	96	184	73	204	47	227	59	256	60	1351	1016	335	24.8
Colorado............	52	14	36	15	48	5	33	8	41	1	253	210	43	17.0
Connecticut	67	16	52	13	69	18	73	20	70	18	416	331	85	20.5
Delaware............	11	0	19	2	21	2	22	0	22	1	100	95	5	5.0
Dist. of Columbia....	53	36	46	21	32	13	25	8	49	7	290	205	85	29.7
Florida............	79	10	70	12	102	15	87	23	114	31	543	452	91	16.8
Georgia............	150	14	143	28	148	9	148	28	178	17	863	767	96	11.1
Idaho............	52	16	54	23	47	24	41	13	35	12	317	229	88	27.8
Illinois............	640	96	645	117	631	100	432	154	505	134	3460	2859	601	28.5
Indiana............	172	7	102	3	97	9	114	7	95	4	610	580	30	4.9
Iowa............	139	43	98	14	113	4	75	6	131	7	630	556	74	11.7
Kansas............	116	18	121	20	66	25	56	25	50	12	509	409	100	19.8
Kentucky............	107	61	120	18	119	35	88	36	88	8	680	522	158	23.2
Louisiana............	145	29	121	33	101	34	123	30	128	36	783	621	162	20.7
Maine.......	[illegible]	11	55	10	73	5	86	11	74	17	434	380	54	12.4
Maryland...					131	32	160	39	160	46	934	713	221	23.7
Massachuset					197	100	226	74	227	54	1532	1101	431	28.1
Michigan....					131	3	127	1	159	3	685	670	15	2.2
Minnesota...					76	22	58	7	55	5	439	355	84	19.4
Mississippi*					84	150	115	113	56	48	1172	523	649	55.4
Missouri............	181	50	212	70	181	23	182	38	213	32	1182	909	213	18.0
Montana............	51	27	68	23	73	21	44	19	60	9	288	286	102	26.3
Nebraska............	103	16	74	6	80	0	67	11	88	10	457	412	45	9.8
Nevada............	17	0	9	0	12	1	8	1	8	1	57	54	3	5.4
New Hampshire.....	37	16	20	10	34	8	18	5	36	7	191	145	46	24.1
New Jersey.........	89	17	76	12	63	17	107	15	59	14	469	394	75	16.0
New Mexico.........	30	2	11	4	6	1	2	2	6	2	66	55	11	16.7
New York.........	679	73	566	72	515	72	536	164	433	153	3263	2729	534	16.4
North Carolina......	95	26	111	18	79	15	92	30	87	37	590	464	126	21.4
North Dakota.......	52	10	41	6	42	5	25	1	15	7	204	175	29	14.2
Ohio............	182	6	192	13	172	10	170	8	199	12	964	915	49	5.1
Oklahoma.........	34	10	92	44	100	42	123	39	94	27	605	443	162	26.8
Oregon*.........	43	63	95	50	93	65	91	50	96	65	704	421	283	40.2
Pennsylvania........	485	49	474	27	451	52	515	27	...	...	2080	1925	155	7.5
Rhode Island........	29	17	23	10	23	10	32	5	39	12	200	146	54	27.0
South Carolina......	47	21	46	33	61	44	94	27	90	35	498	338	160	32.3
South Dakota.......	58	6	60	21	52	9	53	5	16	1	281	239	42	14.9
Tennessee*.........	213	87	277	4	315	52	213	42	313	76	1592	1331	261	16.4
Texas............	143	23	181	19	162	5	151	19	151	13	867	788	79	9.1
Utah............	27	5	28	4	34	4	22	3	20	2	149	131	18	12.1
[illegible]	[illegible]	6	38	2	21	1	51	1	45	2	212	200	12	5.7
[illegible]		53	136	40	122	14	115	43	105	30	786	606	180	24.0
[illegible]		60	148	49	154	43	102	43	69	27	877	655	222	25.3
West Virginia.......	102	18	105	10	88	25	88	22	66	20	544	449	95	17.5
Wisconsin...........	80	7	56	13	71	7	107	7	68	19	435	382	53	12.1
Wyoming...........	7	2	12	0	10	0	8	0	11	0	50	48	2	4.0
Totals..............	7770		7287		7004		6960		6353		35374			
Registered.........	6084		5857		5712		5578		5110		28341			
Rejected............	1686		1430		1292		1382		1243		7033			
Per Cent. Rejectec	21.7		19.6		18.4		19.9		17.8		19.9			

This table gives the number of candidates registered by examination by each state during each of the last five years, as well as the number rejected. *The last four columns give the totals for the five years and* the percentage rejected by each state.

Eight states registered over 1,000 candidates by examination in the five years, these being California, Illinois, Massachusetts, Mississippi, *Missouri, New York, Pennsylvania and Tennessee. Over 3,000* were registered in Illinois and New York. Of the 1,331 candidates registered in Tennessee in the last five years, 525, or 39.4 per cent., were non-graduates.

The highest percentage of rejections were 55.4 in Mississippi, followed by Arkansas, Alabama and Oregon, with 43.5, 43.5 and 40.2, respectively. The states marked with an asterisk (*) included non-graduates among those examined, and for that reason would have higher percentages rejected. Such, however, was not the case in Tennessee. On the other hand, in several states the boards eliminate many candidates prior to the examination by a careful scrutiny of credentials and as a result there are lower percentages of failures at the examinations.

The lowest failure percentages were in Michigan, 2.2; Wyoming, 4.0; Indiana, 4.9; Delaware, 5.0; Ohio, 5.1; Nevada, 5.4, and Vermont, 5.7.

which was 16.0. Table J includes thirty-seven colleges having failure percentages of 20 per cent. or above, of which number fifteen had below 30 per cent., eleven had between 30 and 40 per cent. and eleven had percentages above 40 per cent. The average percentage for all candidates in this group of colleges was 34.8.

A comparison of the classification this year with those of previous years shows a decrease in the number of colleges having above 20 per cent. of failures and also a decrease in those having less than 10 per cent. of failures. It will be interesting to note the changes in these totals hereafter as state boards more generally adopt the use of practical examinations.

TABLE II.—Colleges Having Less than 10 Per Cent. of Failures Before State Boards in 1912. Based on Table B.

College.	Total Examined.	Number Passed.	Number Failed.	Per Cent. Failed.	No. of States.
CALIFORNIA					
College of Phys. and Surgs., Los Angeles....	32	29	3	9.4	6
Cooper Medical College..................	33	31	2	6.1	2
University of California, Medical Dept.......	34	34	0	0.	2
COLORADO					
University of Colorado, Medical Dept........	44	43	1	2.3	10
CONNECTICUT					
Yale Medical College..................	28	26	2	7.1	5
GEORGIA					
Atlanta College of Physicians and Surgs....	78	73	5	6.4	7
ILLINOIS					
Northwestern University Medical School.....	130	122	8	6.2	20
Rush Medical College..................	137	134	3	2.2	21
INDIANA					
Indiana University, School of Medicine.......	50	49	1	2.0	5
IOWA					
Drake University, College of Medicine........	19	19	0	0.	4
State University of Iowa, College of Med....	39	38	1	2.6	5
State University of Iowa, Homeo. Dept.....	4	4	0	0.	1
KANSAS					
Kansas Medical College..................	-12	12	0	0.	3
LOUISIANA					
Tulane University, Medical Dept..............	147	135	12	8.2	12
MAINE					
Medical School of Maine..................	15	15	0	0.	4
MARYLAND					
Johns Hopkins University, Medical Dept.....	86	81	5	5.8	15
MASSACHUSETTS					
Boston University, School of Medicine.......	26	25	1	3.8	6
Tufts College Medical School..............	107	99	8	7.5	7
MICHIGAN					
Detroit College of Medicine..................	39	39	0	0.	2
Univ. of Mich., Dept. of Med. and Surg......	93	93	0	0.	11
University of Michigan, Homeo. College......	19	19	0	0.	3
MINNESOTA					
Univ. of Minn., Coll. of Med. and Surg......	39	39	0	0.	5
MISSOURI					
Eclectic Medical University, Kansas City.....	13	13	0	0.	1
St. Louis University, School of Medicine.....	88	86	2	2.3	15
Washington University, Medical Dept........	57	56	1	1.8	11
NEBRASKA					
John A. Creighton Medical College..........	51	47	4	7.8	7
NEW YORK					
Cornell University Medical College..........	31	31	0	0.	7
Univ. and Bellevue Hosp. and Med. Coll.....	88	82	.6	6.8	7
OHIO					
Cleveland College of Physicians and Surgs...	20	20	0	0.	3
Ohio-Miami Medical College..................	60	56	4	6.7	10
Starling-Ohio Medical College..............	58	57	1	1.7	3
Western Reserve University, Medical Dept....	37	37	0	0.	3
PENNSYLVANIA*					
Hahnemann Medical College and Hospital...	15	14	1	6.7	8
Jefferson Medical College..................	97	92	5	5.2	31
Temple University, Medical Dept............	4	4	0	0.	2
University of Pennsylvania, Dept. of Med...	59	56	3	5.1	24
TENNESSEE					
Vanderbilt University, Medical Dept..........	55	51	4	7.3	18
TEXAS					
Southern Methodist University, Med. Dept....	14	13	1	7.2	2
University of Texas, Dept. of Medicine.......	48	48	0	0.	2
VIRGINIA					
University College of Medicine..............	40	38	2	5.0	8
WISCONSIN					
Wisconsin College of Physicians and Surgs..	13	12	1	7.7	3
Totals..................................	2059	1972	87	4.2	

* Ratings of Pennsylvania colleges uncertain owing to omission of Pennsylvania report.

Total Registration in 1912

The tables thus far described have referred only to the results of examinations and to those registered on that basis. Table K, however, shows the total number who received licenses in each state, including those registered by examination, by reciprocity and under various exemption clauses. Above 100 were registered in twenty-seven different states, above 200 in eleven and above 300 in four, the largest numbers being registered in Illinois with 546, New York with 480, Pennsylvania with 369 and Tennessee with 323. There were 165 *non-graduates registered* in five states, 142 (86 per cent.) having been registered in Tennessee, thirteen in Massachusetts, eight in Oregon, one in Colorado and one in Maine. Altogether, 6,723 physicians were licensed during 1912 as compared with 6,824 in 1911, 7,352 in 1910 and 7,365 in 1906.

Table L gives those registered *without* examination on presentation of *satisfactory credentials*, which included a license issued by some other state. This is usually described by the term "reciprocity," which conveys the idea that the state which accepts the license of another must be granted the same courtesy by the state issuing the original license. The term does not well describe this method of registration, however, since some state boards consider it more fair to the physician to accept his credentials, if satisfactory, whether the state board issuing the original license returns the favor or not. Had not reciprocal relations been established by the thirty-four states shown in the table, 1,141 physicians, the majority of whom have been in practice for many years, would have been compelled to undergo the ordeal of a second trying examination.

TABLE I.—Colleges Having Between 10 and 20 Per Cent. of Failures Before State Boards in 1912. Based on Table B.

College.	Total Examined.	Number Passed.	Number Failed.	Per Cent. Failed.	No. of States.
CALIFORNIA					
Oakland College of Medicine and Surgery...	7	6	1	14.3	1
DISTRICT OF COLUMBIA					
George Washington University...............	44	37	7	15.9	11
Georgetown University, School of Medicine...	24	20	4	16.7	7
GEORGIA					
Atlanta School of Medicine..................	65	55	10	15.4	9
Medical College of Georgia..................	41	35	6	14.6	4
ILLINOIS					
Chicago College of Medicine and Surgery....	161	131	30	18.6	23
College of Physicians and Surgeons..........	194	161	23	17.0	17
Jenner Medical College..................	12	10	2	16.7	3
KANSAS					
University of Kansas, School of Medicine....	15	13	2	13.3	4
KENTUCKY					
University of Louisville, Medical Dept........	177	146	31	17.5	31
MARYLAND					
Baltimore Medical College..................	42	34	8	19.0	13
University of Maryland, School of Medicine..	85	74	11	12.9	16
MASSACHUSETTS					
Harvard Medical School..................	73	64	9	12.3	13
MISSOURI					
University Medical College, Kansas City.....	39	32	7	18.0	7
NEBRASKA					
Lincoln Medical College..................	9	8	1	11.1	2
University of Nebraska, College of Medicine..	10	9	1	10.0	3
NEW HAMPSHIRE					
Dartmouth Medical School..................	16	14	2	12.5	6
NEW YORK					
Columbia Univ., Coll. of Phys. and Surgs....	88	79	9	10.2	13
Long Island College Hospital................	86	69	17	19.8	5
New York Homeo. Medical Coll. and Hosp...	30	25	5	16.7	7
Syracuse University, College of Medicine.....	25	20	5	20.0	1
OHIO					
Toledo Medical College..................	10	9	1	10.0	1
OKLAHOMA					
University of Oklahoma, School of Med......	12	10	2	16.7	3
PENNSYLVANIA					
of Philadelphia...	32	28	4	12.5	11
..., School of Med.....	12	10	2	16.7	9
SOUTH CAROLINA					
Med. Coll. of the State of South Carolina...	81	66	15	18.5	6
TEXAS					
Baylor University, College of Medicine.......	17	15	2	11.8	1
Texas Christian University, Medical Dept....	17	15	2	11.8	3
VERMONT					
University of Vermont, College of Medicine..	59	53	6	10.2	8
VIRGINIA					
Medical College of Virgina..................	49	41	8	16.3	5
University of Virginia, Dept. of Medicine....	24	21	3	12.5	11
WISCONSIN					
Marquette University, Medical Dept.........	59	48	11	18.6	9
Totals..................................	1615	1358	257	16.0	

RECIPROCITY AND EDUCATIONAL STANDARDS

As at present administered, reciprocal relations between some states are tending to lower rather than to elevate educational standards. A study of these statistics will show that in several instances such relations exist between states differing widely in their standards of education and in the methods and severity of their examinations. It can be seen, therefore, that a loosely administered provision for reciprocity provides a wide-open door through which unqualified candidates can obtain registration. There are some boards, however, which wisely reserve and exercise the right to reject any candidate who does not possess satisfactory credentials even though he is licensed in a state with which it has reciprocal relations. Some boards also prudently require that the applicant, before he is eligible to registration through reciprocity, must have been engaged in the actual and reputable practice of his profession for at least a year in the state where the original license was granted. Without this provision a candidate may be tempted to obtain his original license in the state giving the easiest examination. Without the one-year-residence clause, therefore, standards of examination are apt to be lowered. In the establishing of reciprocal relations the state board should reserve and exercise the discretionary power to refuse to register any candidate who could not originally have registered in that state, and, secondly, the board should require that the applicant shall have been in the actual practice of medicine for at least a year before he is eligible to registration under the reciprocity provision.

TABLE J.—COLLEGES HAVING OVER 20 PER CENT. OF FAILURES BEFORE STATE BOARDS IN 1912. BASED ON TABLE B.

College.	Total Examined.	Number Passed.	Number Failed.	Per Cent. Failed.	No. of States.
ALABAMA					
Birmingham Medical College	48	26	22	45.8	4
University of Alabama, Medical Dept	48	37	11	22.9	5
ARKANSAS					
College of Physicians and Surgeons	7	3	4	57.1	3
University of Arkansas, Medical Dept	56	43	13	23.2	5
CALIFORNIA					
College of Phys. and Surgs., San Francisco	9	4	5	55.6	3
Hahnemann Medical College of the Pacific	4	3	1	25.0	1
DISTRICT OF COLUMBIA					
Howard University, Medical Dept	41	32	9	22.0	13
GEORGIA					
Georgia Coll. of Eclectic Med. and Surg	3	0	3	100.0	2
Southern College of Medicine and Surgery	5	3	2	40.0	2
ILLINOIS					
Bennett Medical College	93	71	22	23.7	14
Hahnemann Medical College and Hospital	47	34	13	27.7	12
Hering Medical College	9	6	3	33.3	6
MARYLAND					
College of Physicians and Surgeons	65	50	15	23.1	14
Maryland Medical College	78	33	45	57.7	12
MASSACHUSETTS					
College of Physicians and Surgeons	41	30	11	26.9	10
MISSOURI					
American Medical College					
Barnes	57	40	17	29.8	6
Enswort	18	11	7	38.9	8
Kansas	12	5	7	58.3	5
St. Lou College	14	9	5	35.7	5
d Surgs	27	11	16	59.2	12
NEW YORK					
Albany Medical College	54	34	20	37.0	4
Eclectic Med. Coll. of the City of New York	17	9	8	47.1	4
Fordham University, School of Medicine	19	12	7	36.8	2
New York Med. Coll. and Hosp. for Women	5	3	2	40.0	1
University of Buffalo, Medical Dept	44	34	10	22.7	4
NORTH CAROLINA					
Leonard School of Medicine	54	24	30	55.6	8
North Carolina Medical College	27	21	6	22.2	3
OHIO					
Cleveland-Pulte Medical College	13	10	3	23.1	1
Eclectic Medical College	24	18	6	25.0	9
OREGON					
Willamette University, Medical Dept	10	2	8	80.0	2
University of Oregon, Medical Dept	22	14	8	36.4	3
PENNSYLVANIA					
Woman's Medical College of Pennsylvania	31	24	7	22.6	17
TENNESSEE					
Memphis Medical College	153	96	57	37.3	12
Meharry Medical College	119	78	41	34.5	18
Lincoln Memorial University, Medical Dept	22	15	7	31.8	8
University of Tennessee, Medical Dept	48	35	13	27.1	14
University of West Tennessee, Medical Dept	18	8	10	55.6	6
Totals	1362	888	474	34.8	

In the light of the above statement in regard to reciprocity, it will be interesting to study Table M, which shows in what states the original licenses were granted of those who were registered elsewhere under the reciprocity provision during the last five years. Note that of the 6,029 physicians licensed through reciprocity during the last five years the original licenses of 1,260 (20.9 per cent.) were obtained in Illinois, more than twice as many as came from any other one state. In New York 471 physicians took their original license examinations, 376 in Iowa and 336 in Missouri.

IN CONCLUSION

In the publication of these statistics, the endeavor has been to give an absolutely fair presentation of facts, a knowledge of which is always beneficial. Without question this annual presentation of the results of state licensing examinations has had a most helpful influence on medical education and medical licensure in this country. We reiterate our acknowledgments to the state licensing boards whose ready cooperation and complete reports have made the publication of these data possible.

TABLE K.—REGISTRATION BY STATE BOARDS DURING THE YEAR 1912.

States.	By Examination.			By Reciprocity.	Without Written Exam. or Under Exemption.	Total Registered.
	Graduates, 1908-1912.	Graduates, 1907 and Previous.	Non-graduates.			
Alabama	79	5	....	....	....	84
Arizona	10	22	....	....	2	34
Arkansas	105	19	....	27	....	151
California	159	97	....	....	12	268
Colorado	37	3	1	80	....	121
Connecticut	58	12	....	3	....	73
Delaware	18	4	....	11	....	33
District of Columbia	46	3	....	4	....	53
Florida	82	32	....	....	....	114
Georgia	168	10	....	34	....	212
Idaho	17	18	....	....	....	35
Illinois	474	31	....	41	....	546
Indiana	90	5	....	28	....	123
Iowa	124	7	....	37	....	168
Kansas	45	5	....	52	....	102
Kentucky	86	2	....	30	5	123
Louisiana	122	6	....	1	....	129
Maine	64	9	1	6	....	80
Maryland	153	7	....	19	....	179
	191	23	13	....	....	227
	152	7	....	60	....	219
	47	8	....	59	....	114
	53	3	....	2	....	58
	177	36	....	67	....	280
Montana	35	15	....	....	....	50
Nebraska	76	12	....	59	....	147
Nevada	3	5	....	13	....	21
New Hampshire	28	8	....	8	....	44
New Jersey	54	5	....	74	....	133
New Mexico	2	4	....	...	92	98
New York	406	27	....	43	4	480
North Carolina	81	6	....	22	....	109
North Dakota	10	5	....	11	1	27
Ohio	197	2	....	64	....	265
Oklahoma	70	24	....	17	....	111
Oregon	52	36	8	....	....	96
Pennsylvania	353	3	....	13	....	369
Rhode Island	33	6	....	....	....	39
South Carolina	88	2	....	2	....	92
South Dakota	12	4	....	1	....	17
Tennessee	162	9	142	10	....	323
Texas	136	15	....	99	....	250
Utah	16	4	....	7	....	27
Vermont	41	4	....	2	....	47
Virginia	103	2	....	29	....	134
Washington	51	18	....	....	....	69
West Virginia	58	8	....	28	....	94
Wisconsin	65	3	....	57	....	125
Wyoming	6	5	....	21	....	32
Totals	4695	606	165	1141	116	6723

This table shows the total number registered during 1912 in each state by the various methods. The first column shows the recent graduates registered, the second column, the old practitioners (graduates of 1907 and previous years), the third column the non-graduates, and the fourth column shows the number licensed through reciprocity. It is interesting to note that states which have registered large numbers through reciprocity have examined very few old practitioners. The chief exception is New York, which has arranged reciprocal relations with only seven other states. The fifth column shows those registered without written examination under various exemption clauses. The last column shows the total number of physicians registered by all methods in each state during the year.

TABLE L.—Physicians Registered Through Reciprocity by State Examining Boards During 1912

State Boards of	Total Reg. by Recip., Ea. State	Alabama	Arkansas	Colorado	Connecticut	Delaware	Dist. of Col.	Florida	Georgia	Idaho	Illinois	Indiana	Iowa	Kansas	Kentucky	Louisiana	Maine	Maryland	Massachusetts	Michigan	Minnesota	Mississippi	Missouri	Montana	Nebraska	Nevada	New Hampshire	New Jersey	New Mexico	New York	North Carolina	North Dakota	Ohio	Oklahoma	Pennsylvania	South Carolina	South Dakota	Tennessee	Texas	Utah	Vermont	Virginia	Washington	West Virginia	Wisconsin	Wyoming	Alaska	U. S. Army	Foreign
Number	....	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
Arkansas	27	..	..	..	..	..	1	..	..	..	5	1	..	..	7	2	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	8	..	1	1	..	..	..	..	..	..	..
Colorado	80	1	..	..	1	..	1	..	..	2	13	2	6	2	2	1	1	2	..	3	2	2	5	..	4	..	..	..	2	4	..	..	1	4	6	..	..	4	2	..	2	..	..	..	1	2	1	1	..
Connecticut	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Delaware	11	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..
District of Columbia	4	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..
Georgia	34	..	..	..	..	..	1	1	..	..	..	..	1	1	..	3	..	4	..	4	..	..	2	..	1	..	..	..	..	..	3	..	..	..	..	..	..	9	..	..	..	3	..	..	1	..	..	..	..
Illinois	41	..	..	..	..	..	..	..	..	..	..	4	3	2	2	1	2	3	..	6	2	..	9	..	1	..	..	..	..	..	..	..	1	..	3	..	..	..	..	..	..	..	..	1	1	..	..	..	..
Indiana	28	..	..	..	..	..	3	..	..	..	6	..	..	1	2	..	..	2	..	2	1	..	1	..	..	..	..	..	..	..	1	..	2	..	2	..	..	2	..	..	..	1	..	1	..	1	..	..	..
Iowa	37	..	..	1	..	..	..	..	1	..	8	1	..	2	..	..	1	..	..	1	1	..	9	..	4	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	5	1	..	..	..
Kansas	52	..	..	1	..	..	..	..	..	..	11	4	4	..	..	..	..	..	..	3	1	..	15	..	5	..	..	..	..	..	..	..	1	..	..	..	..	3	1	..	..	..	..	..	1	..	..	..	2
Kentucky	20	..	..	..	..	..	..	..	1	..	..	4	..	..	..	..	..	..	..	2	1	1	1	..	..	..	..	..	2	..	1	..	2	..	..	..	..	9	1	..	..	1	..	3	..	..	..	1	..
Louisiana	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Maine	6	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	2	..	..	..	..	..	..	..	..
Maryland	19	..	..	..	..	2	..	..	1	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	3	..	..	1	..	3	..	..	5	..	..	..	..	..
Michigan	60	..	1	3	..	..	..	..	..	..	23	3	2	..	..	..	..	3	..	..	2	..	3	..	..	..	..	..	..	3	..	..	6	..	1	..	..	1	..	..	1	..	1	..	6	..	..	..	1
Minnesota	59	..	..	1	..	..	1	..	..	..	22	1	4	..	1	..	1	..	..	4	..	..	1	..	2	..	..	..	..	..	..	5	2	..	..	1	..	..	..	..	..	..	..	..	13	..	..	..	..
Mississippi	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
Missouri	67	..	..	..	..	..	1	..	1	..	12	5	10	8	3	..	1	5	..	1	1	..	..	..	5	..	..	..	..	..	..	..	7	..	..	..	..	..	3	..	..	2	..	2	..	..	..	..	..
Nebraska	59	..	1	..	..	..	1	..	1	..	9	1	14	6	2	..	4	1	..	3	1	..	6	..	..	..	..	..	..	..	..	..	1	2	..	..	1	3	1	1	..	..	..	..	..	..	..	..	..
Nevada	13	..	..	..	..	..	..	..	..	..	3	1	1	..	1	..	2	..	..	1	1	..	..	..	1	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
New Hampshire	8	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	..	..	..	..	..	..	..	..	3	..	..	..	1	..	..	..	..
New Jersey	74	..	..	..	..	..	..	..	..	..	1	..	..	..	2	1	8	..	..	..	1	..	..	..	..	..	1	..	..	23	..	..	1	..	29	..	..	..	..	..	7	..	..	..	..	..	..	..	..
New York	43	..	..	..	..	11	..	..	..	..	..	1	..	..	..	..	..	..	1	11	..	..	..	..	..	..	..	10	..	..	..	..	2	..	..	..	..	..	..	..	7	..	..	..	..	..	..	..	..
North Carolina	22	..	..	..	..	1	3	..	3	..	1	..	..	..	..	..	..	2	1	..	..	1	..	..	..	..	..	1	..	1	..	..	1	1	1	1	..	2	..	..	..	1	1	..	..	..	..	..	..
North Dakota	11	..	..	..	..	..	..	..	..	..	4	..	..	..	..	..	..	..	..	..	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..
Ohio	64	..	1	..	..	..	..	..	..	..	11	6	1	..	6	..	..	4	..	12	1	..	4	..	..	..	..	..	..	10	..	..	..	..	1	..	..	..	..	..	1	..	..	4	2	..	..	..	..
Oklahoma	17	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	6	..	..	..	..	3	..	..	..	..	..
Pennsylvania	13	..	..	..	..	..	..	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	7	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
South Carolina	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
South Dakota	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tennessee	10	..	..	..	..	..	..	..	5	..	..	1	..	..	1	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Texas	99	..	11	..	..	..	..	..	..	1	17	3	4	4	1	..	1	1	..	3	3	..	8	1	2	2	..	..	..	..	..	2	7	20	2	..	..	2	..	..	..	..	..	3	1	..	..	..	..
Utah	7	..	..	1	..	..	..	..	..	2	..	..	1	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..
Vermont	2	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Virginia	29	..	..	..	..	..	1	..	..	..	1	..	2	..	1	..	..	6	..	1	..	..	..	..	..	..	..	..	..	2	4	..	..	..	1	..	..	[illegible]											
West Virginia	28	..	..	..	..	..	3	..	..	..	1	1	..	..	3	..	..	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..												
Wisconsin	57	..	1	..	..	..	..	..	..	..	34	1	4	..	..	..	..	3	..	2	5	..	..	..	..	..	..	..	..	..	..	3	..	1	..	..	..	1	..	..	1	1	..	..	..	..	..	..	..
Wyoming	21	..	..	2	..	..	..	..	..	..	8	..	1	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	3	..	2	2	..	..	..	1	..	..	..	..
Total	1141	1	15	9	1	15	18	1	13	5	193	40	58	27	36	10	23	48	2	59	29	5	67	1	29	3	1	18	4	46	12	12	39	28	57	5	1	51	24	3	30	25	3	29	35	4	1	2	3
Number	....	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48

This table shows the number of physicians registered by each state through reciprocity during 1912. Reciprocity is not the best term to use, however, since some states, Colorado for instance, register candidates who have satisfactory credentials including licenses, regardless as to whether the state issuing the original license reciprocate with them or not. Taking New York as an example, reading from left to right, the table shows that New York registered a total of 43 applicants through reciprocity during 1912, of which number 11 came from Delaware, 1 from Indiana, 1 from Massachusetts, 11 from Michigan, 10 from New Jersey, 2 from Ohio, and 7 from Vermont. Reading from above downward, the table shows that 46 physicians left New York during 1912 and registered in other states under the reciprocity provision, of which number 4 registered in Colorado, 1 in Connecticut, 1 in Delaware, 1 in Maine, 3 in Michigan, 23 in New Jersey, 1 in North Carolina, 10 in Ohio, and 2 in Virginia. Texas leads, having registered 99 physicians through reciprocity, followed by Colorado which registered 80, New Jersey with 74, Missouri with 67 and Ohio with 64. It is interesting to note in what states the original licenses were issued. The table shows that of the 1,141 applicants registered through reciprocity 193, or 17.0 per cent., obtained their original licenses in Illinois and 67, the next largest number, were first registered in Missouri. The states which furnished the next highest numbers were Michigan with 59, Iowa with 58, Pennsylvania with 57, Tennessee with 51 and Maryland with 48.

TABLE M.—Reciprocal Registration in Five Years

Showing What States Issued the Original Licenses.

State.	Physicians Going from States Named During					Totals.
	1908	1909	1910	1911	1912	
Alabama*	4	2	..	3	1	10
Arizona*	1	2	..	..	..	3
Arkansas	..	1	52	11	15	79
California*	2	1	2	1	..	6
Colorado	10	12	13	16	9	60
Connecticut*	2	2	..	..	1	5
Delaware	2	1	6	9	15	33
District of Columbia	14	13	11	23	18	79
Florida*	..	1	1	..	1	3
Georgia	18	10	14	7	13	62
Idaho*	1	1	..	..	5	7
Illinois	225	320	286	236	193	1260
Indiana	33	46	50	37	40	206
Iowa	94	77	81	63	58	376
Kansas	32	41	63	50	27	213
Kentucky	53	30	74	42	36	235
Louisiana	..	2	9	8	10	29
Maine	24	18	15	14	23	94
Maryland	30	25	41	52	48	196
Massachusetts*	3	3	..	2	2	10
Michigan	63	51	51	69	59	293
Minnesota	23	35	31	29	29	147
Mississippi	1	1	1	3	5	11
Missouri	61	58	91	59	67	336
Montana*	..	..	3	..	1	4
Nebraska	47	53	42	46	29	217
Nevada	4	2	3	2	3	14
New Hampshire	2	8	1	6	1	18

State.	Physicians Going from States Named During					Totals.
	1908	1909	1910	1911	1912	
New Jersey	46	29	16	14	18	123
New Mexico*	1	7	1	1	4	14
New York	100	59	224	42	46	471
North Carolina	4	7	7	16	12	46
North Dakota	6	5	8	7	12	38
Ohio	35	47	45	40	39	206
Oklahoma	3	5	21	3	28	60
Oregon*	1	..	..	..	..	1
Pennsylvania	15	7	21	12	57	112
Rhode Island*	1	1	..	..	..	2
South Carolina	4	7	5	4	5	25
South Dakota	1	1	..	2	1	5
Tennessee	14	21	45	28	51	159
Texas	10	4	23	10	24	71
Utah	3	4	1	2	3	13
Vermont	20	24	27	36	30	137
Virginia	15	26	31	28	25	125
Washington*	..	..	2	7	3	12
West Virginia	21	36	45	45	29	176
Wisconsin	42	46	31	41	35	195
Wyoming	..	2	1	2	4	9
Alaska	..	..	..	..	1	1
U. S. Army	..	3	..	..	2	5
U. S. P. H. Service	..	..	2	..	..	2
Canada	..	..	2	..	..	2
Foreign and Misc.	..	10	..	..	3	13
Totals	1091	1167	1502	1128	1141	6029

This table shows that 6,029 candidates were registered through reciprocity during the last five years and that until 1911 there was a positive increase each year over the registration of the previous year. A study of the totals for the different states shows that of the 6,029 registered during the four years 1,260 or 20.9 per cent. obtained their original licenses in Illinois. This is more than twice the number coming from any other state. The states furnishing the next highest numbers are New York, with 471, Iowa with 376, and Missouri with 336. The states marked with an asterisk (*) do not have reciprocal relations and would not appear in this table except for the fact that some states, like Colorado and New Jersey, will accept a physician's credentials if satisfactory, whether the state issuing his original license returns the favor or not.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION

535 Dearborn Avenue . . . Chicago, Ill.

Cable Address . . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

Contributors, subscribers and readers will find important information on the second advertising page following the reading-matter.

SATURDAY, MAY 24, 1913

STATISTICS OF STATE BOARD EXAMINATIONS

We present this week, for the tenth consecutive year, tabulated statistics based on examinations conducted by state medical licensing boards. Never before have we had such ready cooperation on the part of state licensing boards, the officers of which have long since come to appreciate the value of these statistics. In 1903, when the collecting of these data began, reports from a large number of boards could not be secured for the reason that no permanent records of the examinations had been kept.

As the casual reader glances over the tables, he will probably not appreciate the enormous amount of work that it entails, or the labor required during the year to gather the material for these tables. Furthermore, the casual reader will not appreciate the conditions which make the collection of these data so important. Matters relating to medical education and medical licensure in this country are controlled by the forty-nine individual states, no two of which entirely agree in details, each state conducting its affairs with little regard as to what is done in other states. No provision has been made by the national government for any coordination or cooperation in these matters, although there is a serious necessity for such coordination. As a matter of fact, it should not be necessary for a voluntary organization to do this work. It should be the function of the national government. The lack of coordination among the various states in these matters is quite serious, as shown by the fact that if an incompetent doctor or an impostor has had his license refused or revoked in one state, he goes promptly to another state, where he seldom fails to secure a license. If he is caught again, he as promptly transfers his allegiance to a third state. Aside from the attempt of a few state boards to work together in a federation, the only influence tending to bring about uniformity in education standards and methods of licensure is that being exerted by the American Medical Association. If, as intimated above, there were a national control of the licensing of physicians in the United States, such as exists in practically every other country, it would not be necessary for the American Medical Association to do this work.

The various statistical tables are worth careful attention. A few additional comments are worth while, and the reader is urged to make a further study by referring to the tables and the descriptive matter accompanying them.

FACTS REGARDING EACH STATE

These tables give valuable information regarding medical licensure in each state. For example, Tables A and B show the number of candidates who appeared for examination, the colleges from which they graduated, the number from each college who passed and the number from each who failed, the total number registered, the total number rejected and the percentage of candidates rejected. This table allows of comparison between the totals and the percentages of one state and those of other states. If a state board's examinations are unusually lenient for graduates of medical schools located in that state as compared with the results for graduates from colleges in other states, the fact will be shown in Table F. The total number of candidates examined, registered and rejected in the last five years by each board and the percentage of rejections are shown in Table G. This permits comparison not only of the figures of the last year with those of the four previous years, but also of the figures of one state with those of the others. Table K shows for each state the totals registered by all methods, by examination, by reciprocity and under exemption clauses. This table also shows the number of non-graduates licensed. Table L shows the number of candidates licensed by each state through reciprocity and shows in what states the original licenses were granted. Table M shows the total number of physicians from each state who, during the last five years, secured licenses elsewhere through reciprocity.

FACTS REGARDING EACH COLLEGE

The tables also give much information regarding medical colleges. For example, Tables A and B show in what state graduates of each college were examined; they show the number who passed and the number who failed in each state, the total examined in all states, the number who passed, the number who failed, the percentage of failures and the number of states in which graduates of the college appeared for examination. In fact, Tables A, B and C permit a comparative study of medical colleges of much value in connection with any investigation of medical colleges. Table D shows for the group of colleges located in each state the total number of graduates examined in all states, the percentage of failures and the rank of each group according (1) to the number examined and (2) to the success of the graduates at the examinations. Table E furnishes an interesting study of the larger colleges—those having fifty or more graduates examined during the year—and allows of comparison between colleges of nearly equal size. The mere fact that a college has large classes is no indication that it furnishes a better medical training. In fact, these data show that often the contrary is true. Tables H, I and J give a classification of medical colleges based on the failures of their graduates at state board examinations. This classification should not be taken alone in forming conclusions regarding medical colleges. Occasionally low-grade colleges may have less than 10 per cent. of failures, owing probably to the fact that only a few graduates were examined, or that they were all examined in the home state. On the other hand, well-equipped and fairly good colleges may occasionally have between 10 and 20 per cent. of failures, especially if they are in states having more rigid examinations. It is seldom, however, that a well-equipped and well-conducted medical college will, year after year, receive more than 20 per cent. of failures of its graduates at state licensing examinations. This classification of colleges is interesting, however, and throws an important side-light on the third classification[1] of the medical colleges of the United States prepared by the Council on Medical Education following the actual inspection of the colleges.

TOTAL REGISTRATION IN ALL STATES

These statistics show for each state the number of candidates coming not only from each medical school in this country but also from Canadian and other foreign medical colleges. In short, they give an accurate record of the number and source of those who are entering the practice of medicine each year in this country. Without the data published this week, it could not be known that 6,723 physicians were licensed in this country during 1912, and that this included 5,466 who were registered by examination, 116 who were registered under the various exemption clauses, and 1,141 mostly old practitioners, who were registered under the provision for reciprocity.

STATISTICS ACCURATE AND RELIABLE

The work of collecting and publishing these statistics was begun by THE JOURNAL in 1903, but since the creation of the Council on Medical Education they have been developed as an important part of the Council's work. Every report received from the state licensing boards is now carefully checked, duplications are avoided, errors are corrected and the statistics are thereby rendered accurate and reliable. This is made possible through the enormous amount of data collected by the Council regarding medical colleges, students and graduates. Through the possession by the Council of complete alumni lists of all existing medical colleges, the Council is in position to avoid charging a college with a failure which may have been erroneously accredited to it when, in fact, the candidate who failed was a graduate of some other college.

INFLUENCE ON MEDICAL LICENSURE

These statistics have had a much greater effect, however, than that rendered by a mere numerical record of physicians examined and licensed, and probably no one has recognized their value more than have the state licensing boards themselves. As a result, in many states splendid systems of record-keeping are now to be found where formerly, in several states at least, no records whatever were kept, and in several other states the systems were far from perfect. During the last several years, furthermore, they have furnished abundant argument for practical tests in state license examinations and have undoubtedly had much to do with the improved character of these examinations and the better methods of conducting them. A study of the statistics for several years will show that, although there has been a gradual improvement, there is still much that needs to be done.

INFLUENCE ON MEDICAL COLLEGES

The influence on medical colleges resulting from the publication of these statistics has been tremendous. Whereas previously these institutions may have been unaware of the weaknesses in their methods of teaching, these statistics have shown them how frequently their graduates fail at the state license examinations. There has been a marked improvement in their equipment, better teachers have been secured and better methods adopted, and it can be seen by a review of the statistics published during the last several years that a number of colleges have materially reduced the failure percentages of their graduates at these examinations.

COOPERATION MUTUALLY ADVANTAGEOUS

As will be understood by the careful reader, these statistics have their greatest value when studied in connection with other data collected by the Council on Medical Education and published in THE JOURNAL and in the Council's reports. The state board statistics are made more accurate and reliable through the data kindly furnished by medical colleges; they are based on reports received direct from state boards; *but through the careful checking of those reports*, errors are frequently corrected, the state boards are notified, and in this way state records are also made more accurate. The statistics published this week, therefore, have been made possible only through the cordial cooperation of both the state boards and medical colleges, and for this cooperation we again express our acknowledgments.

UNINTENTIONAL HUMOR IN SCIENCE

The following absurdity appeared, not in the Sunday edition of a "yellow" journal or in the columns of a humorous weekly, but in the March issue of a dignified scientific journal, well seasoned by sixty-eight years of useful existence—the *Chemical News* of London:

"Rewrite your works on foods, Mr. Langworthy and Dr. Wiley! Begin anew your nutrient studies, Uncle Sam, and you dietetic experts in college, state departments of agriculture, food commission and government, state and city laboratories, for all your labor has been for nothing. You have reckoned on a wrong basis. Your premises being wrong, your conclusions are wrong. You might as well admit now as later that you know nothing at all about the nutritive properties of foods, for that is just what it amounts to in the light of the latest revelation. And this is not said in sarcasm either. . . . As Newton overturned old traditions by revealing the law of gravitation; as radio-activity has upset all previous calculations concerning the make-up of matter, so has Trophogen or Bitrophon set at naught all our former reckonings regarding the nutritive power of foods."[1]

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[1] THE JOURNAL A. M. A., Jan. 18, 1913, p. 231.

When an editor of the standing of Sir William Crookes, O.M., F.R.S., tolerates such stuff as the leading article in two successive issues of his widely read journal, we wonder whether there is such a thing as journalistic dotage. It is not enough to overlook such incidents; the inquiries addressed to us prevent that. One must explain.

The subject of these communications is the alleged discovery of a "Chicago physiologist," Prof. Rutledge Rutherford, "a quiet and unassuming man" whose "disclosures are sure to turn everything topsy-turvy in the food world." The real food value of our nutrients, says the professor, is not centered in their content of fat, carbohydrate and protein, but in "the all-containing nutrient of foods," Trophogen. The new science of trophology, we are told, "explains why, and does not attempt to tell how; it teaches of the origin, the nature, the cause and the effect of food nutriment." Dietetics, in contrast with trophology, he asserts, is not a true science, and "a person is worse off for knowing it than for not knowing it."

A perusal of this pseudoscientific literature indicates that the writer has suddenly become aware of the significance of the accessory factors in diet — an aspect of the story of nutrition which has repeatedly been emphasized in the columns of The Journal. The findings in relation to beriberi and the subtle antineuritic substances,[2] Stepp's reports on the supposed rôle of lipoids in nutrition,[3] the important and little unraveled part played by the inorganic factors in the dietary[4] — these and other familiar novelties of experimental physiology are actually presented in March, 1913, in a publication of international repute, as the scientific discovery of a Chicago "professor." It is unnecessary to refer to the statements that preservatives destroy the life-saving principle, that it is present in plants which synthesize it and from them gets into animals, or to comment on the probable value of Trophogen, Bitrophon, or any of the astonishing discoveries thus set forth.

That the real revelations of scientific discovery are quite as wonderful as the figments of the imagination which find their way into literature in the undisguised form of fiction is too little appreciated by the story writers. The "boomfood" of H. G. Wells' "Food of the Gods" is no more marvelous in its potency than are the secretions of the ductless glands. Indeed, the marvels of fiction are little else than distorted and exaggerated applications of the actual data of science. It is interesting to study the genesis of an occasional "head liner." The announcement, a few years ago, in the newspapers throughout the world, that man is by nature a cannibal was the outcome of the publication of Michaud's studies showing that it is easier for dogs to attain nitrogenous equilibrium on a mixture of amino-acids from dog muscle than from a widely different protein. The telegraphic despatches of a month ago announcing that man's food can now be completely synthesized in the laboratory were the ingenious newspaper man's expression of Abderhalden's experiments in feeding completely digested foodstuffs.[5] Similarly a sensational editor has seized on the suggestions in Stepp's studies on mice[3] and Hopkins' researches on rats,[6] only to find in the mysterious word "lipoid" a stepping-stone by which he is "able to peer deeper into the hidden mysteries of food nutrition." Through the thin veneer of an incompetent review one sees the familiar background of well-known facts.

It is distressing to read in columns side by side with the proceedings of the Royal Society, that "fat which we have been taught to regard as one of the important nutritive principles of food, contains no particle of nutriment in itself," and that "protein was proved to possess no nutriment." We are conscious of the vein of truth in the statement in the paper in the *Chemical News* that "trophology is a true science, yet a person can enjoy just as good health and get along just as well generally without it as with it." Would it not be well for our London contemporary to follow our lead and segregate such subtle humor into a column reserved for avowed jokes?

WHAT IS GRAHAM FLOUR?

"Graham flour" is the familiar and popular name given to a milling product which is really wheat meal containing all of the grain. In manufacturing graham flour the whole of the wheat kernel, after being cleaned, is ground to a powder between stones or rollers, whose surfaces are cut so as to insure a complete crushing of the grain. It has sometimes been made by removing the outer branny portion of the kernel and grinding this separately from the inner parts, afterward mixing the two, as it was thought that the efforts to grind the naturally coarse material with the rest of the wheat had a deleterious effect on the bread-making qualities of the flour. Graham flour is now commonly made by crushing and grinding the whole of the kernel at once without bolting or sifting. When thus prepared it contains the same ingredients as the wheat itself and in the same proportions.

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[1] Briggs, E. L.: The Life Nutrient in Foods, Chem. News, 1913, cvii, 133.

[2] The Supposed Significance of Phosphorus Compounds in the Development of Polyneuritis and Beriberi, editorial, The Journal A. M. A., Nov. 16, 1912, p. 1801. Infantile Beriberi, editorial, The Journal A. M. A., Nov. 30, 1912, p. 1977. Antineuritic Foods, editorial, The Journal A. M. A., May 17, 1913, p. 1543.

[3] The Rôle of Lipoids in Nutrition, editorial, The Journal A. M. A., Nov. 4, 1911, p. 1540; The Lipoids and Nutrition, editorial, The Journal A. M. A., March 1, 1913, p. 669.

[4] Inorganic Salts and Physiologic Equilibrium, editorial, The Journal A. M. A., Aug. 17, 1912, p. 546. A New Theory of Protein Metabolism, editorial, The Journal A. M. A., Sept. 14, 1912, p. 880. Rectal Feeding and Absorption from the Large Intestine, editorial; The Journal A. M. A., Sept. 21, 1912, p. 946.

[5] A Striking Experiment in Simplified Nutrition, editorial, The Journal A. M. A., May 10, 1913, p. 1464,

[6] Hopkins, F. G.: Jour. Phsiol., 1912, xliv, 425.

Such "unbolted wheat meal made from sound, clean, fully matured, air-dried wheat" derives its name from the American physician, Sylvester Graham. About 1839 Graham started a wide-spread agitation in favor of a return to the use of bread made from the whole of the wheat, ground but not bolted.[1] In his book, "The Science of Human Life," published in 1839, Graham emphasized the efficacy of whole-wheat flour in alimentary disorders of various sorts and urged its substitution for the superfine flour which had come into vogue. It is said that at one time, in Great Britain, owing to the fact that the newspapers and the civic physicians recommended bread made from whole-wheat flour generally, it became so universally used that in many towns it was almost impossible to find a loaf of fine-flour bread. Subsequently, owing to the heavy importation of fine flour from this country and to economic and other considerations, the people gradually returned to their old habits of eating fine-flour bread.

Graham specifically directed that the wheat to be used for bread-making should be washed and cleaned from all impurities, and should be ground by means of sharp stones, coarse rather than fine, inasmuch as he believed the coarse-ground flour to make a bread sweeter and more wholesome. Even the most successful attempts at fine grinding, however, still leave it fairly coarse and with a large proportion of branny particles. Objections to this were raised from time to time. It has been insisted, for example, that the presence of so large a proportion of the bran as there is in graham flour of this description seemed in many cases to result in irritation of the delicate mucous lining of the alimentary tract.

As a compromise between the coarse graham flour and the fine white flours (in which the bran, the aleurone layer and the germ are removed before the remainder of the kernel is ground), an intermediate product was gradually placed on the market under the name of "whole wheat" or "entire wheat" flour. These terms seem rather inexact for a product with which more or less bolting is supposed to have taken place, for they suggest something practically identical with graham flour. It has been asserted that "entire wheat" flour is prepared by removing only the woody part of the bran, leaving the aleurone layer and the germ, and that therefore it contains all the alleged nutritious part of the wheat kernel without the irritating bran. As a matter of fact, these attempts to remove only the bran do not seem always to have been entirely successful. If the intent were adequately carried out so-called entire-wheat flour would represent a grade not so coarse as graham or so fine as the white flours.

Among the many unexpected situations brought to light as the result of the enforcement of the national Food and Drugs Act is that pertaining to the manufacturing practices in connection with these coarser grades of flour. Investigations made by the government[1] disclose the fact that although many millers adhere to the original manner of preparing graham flour, a large percentage of so-called graham flours found on the market are made by mixing bran with inferior grades of flour. We are officially told that "statements made by many millers show that a very large percentage of the so-called graham flours on the market are mixed products or imitations, not made from purified middlings, bran and flour, but made from feed bran, which always contains the shorts and the germ, together with low-grade flour . . . and in many instances such alleged graham flours contain sweepings from the mill." It is further remarked that when such imitations are made by the use of high-grade flours, purified middlings and bran, it is evident that there is no desire to sell the consumer a cheap material, since the miller believes that the flour thus prepared is a better grade and that better results in baking may be obtained than with the true graham flour.

Such mixtures should obviously be branded "imitation graham flour," whatever their respective nutritive or therapeutic or technical qualities. The time has come when the protection of the consumer and the integrity of the trade call for an honest labeling of wheat products. Flour made to simulate the well-known, old-fashioned, unbolted ground whole-wheat kernel should be designated as imitation, and the term "bolted whole wheat" might appropriately be used in place of the present misnomer which designates as "entire wheat," wheat meal from which something has been removed. We may differ with one another as to the comparative virtues of whole wheat, bolted wheat, patent flour, shorts, germ meal or bran, but there should be no debate on the propriety of a representative name and an honest label.

THE OFFICE OF CORONER

In an interesting article on the coroner's office, Macht[1] points out that since early times men have provided themselves with some form of legal machinery for inquiry to determine the causes and manner of deaths from unknown and unnatural causes. In most European countries to-day such investigations are directed by forensic officials who rely on medical and scientific experts in the service of the state. In order that the necessary expert work of this kind may be conducted to the best advantage, special medicolegal institutes have been established, the functions of which also include teaching and investigation. In most English-speaking countries the duty of making the necessary inquiry into deaths from all manner of unknown and unnatural causes devolves on the coroner, who appears early in the English scheme of government.

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[1] Some of the facts referred to are taken from LeClerc, J. A., and Jacobs, B. R.: Graham Flour, U. S. Dept. Agric., Bureau of Chemistry, Bull. 164, Washington, Government Printing Office, 1913

[1] Macht: Johns Hopkins Hosp. Bull., 1913, xxiv, 148.

In our states (except several in New England) the coroner is an elective county officer, and the general methods of procedure at coroner's inquests are familiar to all. When we consider the wide and important scope of the work of the coroner's office, especially in our larger cities, and how dependent he is on experts in pathology and chemistry, it is at once apparent that at present our machinery for the proper conduct of this work is quite inadequate, being for the most part in a state of cumbersome and ineffective dismemberment. As a consequence crude methods obtain, justice is hindered, money wasted, and an orderly development of medicolegal science prevented. Nothing approaching the medicolegal institutes of Germany exists in this country, and we have almost no periodical medicolegal literature.

A thorough rehabilitation of the ancient office of coroner along modern lines is urgently needed in this country. The article by Macht makes this plain. So long as the coroner remains an elective officer with a continuous tenure of at most four years it is not likely that the office will be filled generally with properly trained medical men. Until this is realized, special efforts should be made to provide adequate facilities for the proper conduct of the office. In our larger cities the work should be centralized in suitable buildings provided with well-equipped post-mortem rooms and laboratories, pathologic and toxicologic, which should be in charge of competent experts permanently attached to the coroner's staff. It is a hopeful sign that the coroner of Cook County, Illinois (Chicago), has succeeded in securing the appropriation necessary to establish a special chemical laboratory and to secure the undivided services of a capable chemist. The daily work of the coroner will be conducted more effectively and economically through better organization in these directions. But that is not all. From the more thorough and systematic study thus made possible of the many peculiar problems investigated by the coroner's staff, important additions will be made to medical knowledge, especially in the fields of pathologic anatomy and toxicology, and to sociology in general. In short, manifestly necessary improvements in the organization of the present coroner's office will increase greatly the value of its service.

DIVISION OF FEES

The vexed question of the secret division of fees, or the commission evil, is attracting more and more attention. This is encouraging, for it means that those who are guilty will stop and consider. As before remarked, there is no doubt that there are some men who divide fees, and yet we feel very sure that the evil is not so wide-spread as some suppose, or as it has been, for the discussion of the question has made many men who have not heretofore thought of it in that light realize that it is a moral wrong. Yet, while the evil has been discussed in medical journals, in societies, etc., there still seems to be a sort of general conspiracy of silence and inaction, when it comes to a definite attempt to eradicate it. This is a tacit acknowledgment that the practice is wrong; it subjects the profession to just criticism by the laity, and indeed leads the public to believe that fee-splitting is more prevalent than it really is.

The *Journal of the Indiana State Medical Association* has started an active campaign against the practice. "The very fact that the division of fees is not practiced openly, but in secret," says the *Journal*, "is sufficient to condemn it as a species of graft and dishonesty which deserves exposure and requires the adoption of means for correction of the evil. Tolerance of the practice of fee-dividing means disgrace and dishonor for the medical profession." A prominent surgeon of Indiana, having come out strongly against fee-division, invited the *Journal* to open its columns for the discussion of the question, and medical men have been asked to register openly their stand on the question. The state society as a body in a strong resolution condemns fee-splitting. The board of trustees of Indiana University, it is reported, has agreed to remove any member of the faculty of the medical department who is guilty of the practice. The *Journal* accuses the Indianapolis Medical Society of being lukewarm toward the proposition, and cites the action at a recent meeting of tabling several amendments to a resolution to incorporate in the by-laws an article providing for the automatic expulsion of any member guilty of fee-splitting. The results of the invitation of the *Journal* will be highly interesting as a declaration of the stand of the physicians of Indiana on fee-division, and should be the forerunner of a distinct improvement in the situation in that state if it is as bad as it is believed to be.

Indiana, of course, is not the only state which is attempting to eliminate the evil. The state medical association of Missouri, at its last session, defined and condemned fee-splitting. At Los Angeles, after a vigorous agitation of the subject, action was taken by the county medical society in the form of having physicians sign a pledge that they would not participate in fee-splitting. The New York Academy of Medicine passed a vigorous resolution on the subject. In Detroit the board of trustees of Harper Hospital in 1912 unanimously passed a resolution that any member of the medical staff convicted of secret division of fees should be dismissed, and adopted the definition of illegal division of fees established by the American Medical Association. More recently the faculty of the medical school of the University of Minnesota strongly denounced the secret division of fees and declared the practice tantamount to the buying and selling of patients, as disgraceful and abhorrent to every right-minded practitioner and the gravest danger that threatens the profession.

Current Comment

FEE-SPLITTING AND THE EXPLOITATION OF UNFORTUNATE GIRLS

The ramifications of the fee-splitting and commission evil are many. Two advertising circulars before us are from maternity homes for unmarried girls. Both offer substantial pay to the physician who refers the patient. In one case the expense to the girl, including adoption of the child, is from $150 to $250, and the home physician is to be given 10 per cent. of the patient's deposit. The physician has sunk pretty low who will accept money of this sort—it almost places a premium on seduction—but it illustrates the demoralizing effect of acquiescence in fee-splitting and commission-giving. Incidentally, we note that both advertisements announce that the baby will be adopted. In one state, Ohio we elieve, such an announcement has been prohibited by aw, on the ground of being contrary to public policy, placing an improper encouragement on baby-farming. There is room for some good legislation along this line in other states.

DR. WILEY'S ATTITUDE ON ADVERTISING

With the work of the Vigilance Committee of the Associated Advertising Clubs as his text, Dr. H. W. Wiley, writing in *Printer's Ink*, expresses in unequivocal terms his attitude toward the present advertising situation. That to exclude every fraudulent advertisement does not necessarily spell bankruptcy to publishers, he illustrates from facts in The Journal's experience. "When honest manufacturers saw that dishonest competition was cut out they hastened to get a place in a journal where no tainted advertisement was allowed. To-day The Journal of the American Medical Association has a far larger income from its advertisements than ever before." He pays tribute to the Vigilance Committee's check on turbulent elements in modern advertising, and especially to its efforts on behalf of the "model bill," now adopted in several states and under favorable consideration in others.[1] In contrast to this influence for clean advertising, Dr. Wiley mentions the attempt made by the *National Druggist*—that unfailing prop of fakery—to introduce into this model bill the word, "knowingly." Such an addition Dr. Wiley declares a device of obstructers. "There is no 'knowingly' in the law against passing counterfeit money," he continues; "when you are caught with the green goods in your hands, the law knows you know." But, the *National Druggist* protests, "the *Printer's Ink* bill would make criminal a statement that is merely [*sic*] 'untrue, deceptive, or misleading.' It does not require guilty intent or even knowledge of the act committed, to make the crime complete." Even so. Hence, let the publisher assume some moral responsibility. For "when the lying advertisement has done its perfect work and the victim is dead or bankrupt, it makes no difference to (that victim) whether the author of his effacement was malicious or only maudlin." Dr. Wiley accepts one statement, however, of the *National Druggist* as splendidly true: "It [the *Printer's Ink* bill] is likely to be placed on the statute books of many states in a short time unless some organized opposition soon develops." This acknowledgment from such a source is to Dr. Wiley but a prophecy of the final rout of fake advertisers, opposition or no opposition, and of an unconditional victory for the ethics of the Vigilance Committee of the Associated Advertising Clubs of America.

THEOBALD SMITH ON VACCINES

There appears in this issue of The Journal an important discussion by Theobald Smith of Boston on the present use of vaccines, both for preventive and for curative purposes.[1] We may be permitted to point out that there is no one who is entitled to receive closer attention or whose word carries more weight in discussions of general questions relating to infection and immunity than Theobald Smith. We owe to him discoveries of fundamental significance. In conjunction with Kilbourne he demonstrated that Texas or southern cattle fever is caused by a blood parasite which is transmitted through the bite of a tick, thus paving the way for the demonstrations that malaria, yellow fever and other diseases are transmitted by biting insects. He was the first to differentiate the bacillus of bovine tuberculosis from the bacillus of human tuberculosis. Smith was also the first to note the peculiar way in which a guinea-pig injected with horse-serum reacts on subsequent injection, and this phenomenon—"Theobald Smith's phenomenon"—is a central point of the recent intensive study of the various phases of anaphylaxis. This must suffice to illustrate Theobald Smith's achievements as investigator. In addition to being a great investigator he has in rare degree the power of discussion, broadly scientific and philosophic, yet eminently sane, direct and practical, of the large problems of infection and immunity. This is well shown in his instructive and clarifying consideration of preventive and curative vaccination, the diligent study of which is urged on all physicians who aim to be something higher and more useful than mere slaves of routine and unsafe commercialized short cuts.

THE DUKET "CONSUMPTION CURE"

Three or four years ago we began to receive inquiries concerning a consumption cure exploited by one Peter P. Duket, M.D., in and around Findlay and Toledo, Ohio. As in all such cases, the advertising matter, circular letters, etc., sent out by the promoter were collected with the intention of making a thorough investigation. It soon became evident, however, that the fake was a minor one and that its perpetrator was but a small fish in the ocean of quackery. There were so many other and more dangerous frauds to be shown up that the Findlay concern was not deemed worth space in The Journal. The data collected were filed with such occasional additional matter as came to The Journal office; otherwise the case was forgotten. Suddenly, however, it has flared into prominence: two months ago the newspapers heralded it as a new cure for consumption

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1. See The Journal A. M. A., May 3, 1913, p. 1377; May 10 1913, p. 1482.

1. Smith, Theobald: An Attempt to Interpret Present-Day Uses of Vaccines, p. 1591, this issue.

emanating from Chicago, professionally fathered by a medical college of that city and financially backed by a well-known politician and banker. The conditions under which this unknown product is now being exploited are entirely different from those under which it was pushed in Findlay; its possibilities for harm have been enormously increased through its tacit recognition by presumably responsible persons. THE JOURNAL, therefore, makes no apology for taking up the subject. We believe that when our readers have gone over the article appearing in the Propaganda Department this week, they will wonder, with us, what can have led the Bennett Medical College to lend recognition to a humbug so palpable. Mr. Lorimer's connection with this latest medical fiasco may charitably be assumed to be an altruistic one. But why men of scientific training should allow themselves to be drawn into a thing of this sort is hard to understand.

THE TRANSMISSION OF RECURRENT FEVER BY THE LOUSE

An epidemic of recurrent fever in Tunis during 1912 gave Nicolle and his co-workers the opportunity to make important investigations on the transmission of this disease, the chief results of which may be recounted. Nicolle came to this task fresh from his work on typhus fever which he, like the American investigators, found to be transmitted by the ordinary louse (*Pediculus vestimenti* as well as *P. capitis*), so that he was in full command of the best methods for studying louse transmission. Fleas, ticks and lice have all been charged with the conveyance of recurrent fever, but the evidence at hand outside of that now presented by Nicolle[1] is not sufficient to fix the charge on any one of these insects. Indeed, it has been shown that the bite of seemingly infected lice is harmless and in one experiment Nicolle, Blaizot and Conseil found that as many as 6,515 bites of infected lice were without effect on the monkey and on man. By means of the ultramicroscope the French investigators now traced the fate of the spirrillum of recurrent fever in the louse, and they found that the spirilla disappear very early and completely, to reappear after about eight days in the body cavity (*la cavité lacunaire*), where they remain about twelve days without invading any of the surrounding organs or the buccal apparatus. At the end of this time they disappear for good. These spirilla are virulent for man and for monkeys, but as they cannot escape from the insect while it is alive, infection is held to take place as a consequence of scratching and crushing the lice, whereby the spirilla are set free and may be carried on the nails to excoriations and to the conjunctiva, and thus enter the blood and cause recurrent fever. Clean-cut experiments are given, which establish this mode of transmission. As the infection may be hereditary in the louse the virus can maintain itself in this insect. These results show that the louse is the agent of transmission of recurrent fever, and this disease consequently becomes subject to the same method of prevention as exanthèmatic typhus. Both these diseases are louse diseases. While the investigations in question were conducted with the recurrent fever of North Africa, the results undoubtedly are applicable to the spirillosis of other countries as well; at all events it seems as if it would not be difficult to subject to experimental tests their probable transmission by lice.

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[1] Nicolle, Blaizot and Conseil: Étiologie de la fièvre récurrente. son mode de transmission par les poux, Ann. de l'Institut Pasteur, 1913, xvii, 204; abstract 49, p. 1670, this issue.

Medical News

CALIFORNIA

Examination for Health Director.—The Civil Service Board of Oakland announces an examination June 30 for health director, the salary being about $3,000.

Personal.—Health Commissioner L. M. Powers of Los Angeles was given a dinner by the employees of the health department May 7, at which he was presented with a diamond-studded gold shield.——It is announced that Dr. R. G. Brodrick, health officer of San Francisco, is to retire to become superintendent of the new San Francisco City and County Hospital and that his place will be filled by Dr. A. P. O'Brien, formerly health officer of the city.——The office of Dr. J. A. Copeland, Delano, was destroyed by fire, recently.

ILLINOIS

Personal.—Dr. S. M. Green, Dixon, charged with having caused the death of May Coleman, Milledgeville, by an alleged criminal operation, was found not guilty, May 11.——Dr. Z. T. Baum has just entered on his fifth term as mayor of Paris.

Appropriation Sought for State Hospital.—Dr. W. A. Crooks, the superintendent of the Watertown State Hospital, is asking for an appropriation of $165,000, of which $75,000 is for a dormitory for female patients, $25,000 for a building for male patients suffering from tuberculosis and $22,000 for the purchase of eighty additional acres of land.

Chicago

Study of Tropical Medicine.—Dr. John R. McDill, Milwaukee, who has been for several years in the Philippine Islands, has been appointed associate professor of surgery (tropical diseases) in Rush Medical College and will give a short course next winter. It is possible that this is the first step toward the establishment of a department for the study and teaching of tropical diseases in Chicago.

Hospital News.—Dr. Maximilian Meinhardt announces that he will assume personal management of the Lakeside Hospital, August 31. The hospital will thereafter be known as the Lakeshore Hospital.——The following appointments are announced on the attending staff of Cook County Hospital: department of contagious diseases, Drs. Archibald L. Hoyne, William L. Baum, George H. Weaver, Edward K. Armstrong and Anson M. Cameron; department of children's diseases, Dr. Grace L. Meigs; department of pediatrics, Drs. J. H. Hess, C. G. Grulee and Joseph Brennemann.

Honor Professor Ingals.—A number of colleagues of Dr. E. Fletcher Ingals gave a testimonial banquet April 28 in his honor and in appreciation of his forty-two years of service in the medical profession. Dr. Frank Billings presided. Addresses were made by Prof. J. G. Coulter for the University of Chicago; Hon. Frederick A. Smith for the board of trustees of the university; by Dr. E. L. Shurly, Detroit, for laryngology; by Dr. Norman Bridge, Los Angeles, for the faculty, and by Dr. Otto T. Freer, for the department of laryngology. Dr. John M. Dodson presented a loving cup to Dr. Ingals and in his response, the guest of honor gave a historical sketch of the evolution of Rush Medical College.

INDIANA

Wynn Given Loving Cup.—Dr. Frank B. Wynn, Indianapolis, was presented with a loving-cup by the officers of the Indianapolis State Medical Association, May 7.

Personal.—Dr. James H. Walker, Henryville, has been appointed consulting physician to the Indiana Reformatory, Jeffersonville.——Dr. R. O. McAlexander has been appointed president of the Board of Health of Indianapolis, vice Dr. J. H. Ford.——Dr. Henry Jameson, president of the Indianapolis Park Board, has returned from Europe.——Dr. Hugh M. Miller has succeeded Dr. C. A. Daugherty, deceased, as medical director of the Epworth Hospital, South Bend.

Appointments at Jefferson.—Dr. Frederick J. Kalteyer, assistant professor of medicine, associate professor of medicine; Dr. John C. DaCosta, Jr., associate professor of medicine; Dr. R. Max Goepp, assistant professor of clinical medicine; Dr. Ross V. Patterson, assistant professor of medicine, and Dr. P. Brooke Bland, assistant professor of gynecology.

Personal.—Dr. C. D. Wilkins, superintendent of the Wilkes-Barre Hospital, has been appointed superintendent of the Charity Hospital, New Orleans.——Physicians of Mahanoy City presented Dr. Phaon H. Hermany with a silver loving-cup, May 10, on the occasion of the fiftieth anniversary of his entrance into the medical profession.——Clinton County Medical Society gave a banquet May 7 in honor of Dr. R. B. Watson, Lock Haven, in celebration of his seventy-fifth birthday anniversary and his fiftieth anniversary as a practitioner.——Dr. Henry H. Riegel, Catasauqua, last week celebrated the fifty-sixth anniversary of his entrance into practice.——Dr. E. F. Bickel, Shamokin, has been chosen as secretary-treasurer of the Five County Alumni Association of the Medico-Chirurgical Faculty of Philadelphia, comprising Northumberland, Union, Snyder, Montgomery and Columbia counties.——Dr. W. N. Pringle, Johnstown, has returned from a trip to Australia and the South Sea Islands.——Drs. Walter Loftus, Carbondale, and A. L. Diefenderfer, Oringsburg, have been elected members of the medical staff of the Emergency Hospital, Scranton.——The coroner's jury on May 13 exonerated Dr. J. A. Lichty, Pittsburgh, from any blame in the death of J. A. Jackson, who was struck and killed by Dr. Lichty's automobile, March 29.——In the case of Dr. Frank H. Lawrence, Reading, who was sued for damages for alleged assault, the jury, after twenty minutes deliberation, returned a verdict in favor of the physician.

Philadelphia

War on Rats.—Dr. Joseph S. Neff, director of public health and charities, has urged householders of the city to wage unceasing war against rats, mice and roaches and has published methods for destroying these pests.

Many Vaccinated.—Vaccination of more than 3,500 persons in the northeast section of the city was made on May 11. One of the small-pox patients had attended service at the St. Paul's Church, Eighth street below Girard Avenue less than a week earlier and Dr. A. A. Cairns, chief medical inspector, demanded that the congregation be vaccinated. The church was locked and a line of police outside prevented the holding of any service until the pastor gave the assurance that every member would be vaccinated. Dr. Cairns spoke at both the morning and evening service and each person handed in his name and stated whether he wished to be vaccinated by his own or a city physician. There have been no new cases reported.

Dr. Duhring Wills $81,000 to University.—The will of Dr Louis A. Duhring, former professor of dermatology at the University of Pennsylvania, devises approximately $81,000 to the university and hospital connected with it. The income of $25,000 is to be used for the department of cutaneous medicine. A museum for the study of cutaneous disease is to be established. Should any of the income of this $25,000 trust fund be available for other purposes, lectures, prizes and scholarships are to be awarded and facilities for research work are to be given. The University hospital is to receive $50,000 for the support of wards of free beds for the treatment of skin diseases and similar physical disorders. After the payment of other bequests the residue is to be given to the trustees of the University of Pennsylvania and to the College of Physicians to be distributed in a specified manner.

TENNESSEE

New Officers.—Chester County Medical Association reorganized at Henderson, April 26: president, Dr. J. R. Carroll, Henderson; secretary- treasurer, Dr. E. D. DeBerry, Gail.

State Board News.—Dr. E. L. Simmons, Greeneville, has been appointed a member of the State Board of Medical Examiners, vice Dr. W. H. Halbert, Nashville, resigned.——At the annual meeting of the State Board of Health in Nashville, April 29, Dr. R. E. Fort, Nashville, was elected president, Dr. A. M. Gamble, Maryville, vice-president and Dr. H. H. Shoulders, Nashville, assistant secretary of the board, was chosen as state registrar of vital statistics.

TEXAS

Free Telephone Service for Benefit of Public Health.—The people of Texas are to have at their command telephone lines of the state for health control and prevention of sickness and epidemics. Dr. Martin E. Taber, Dallas, director of the Southwestern Telegraph and Telephone Company, announces that he will appoint physicians in every city where the company maintains an exchange, and that this organization will be at the service of the community as conditions of public stress develop.

State Association Meeting.—The State Medical Association of Texas at its forty-fifth annual meeting in San Antonio, May 6-8, elected the following officers: president, Dr. Marvin L. Graves, Galveston; vice-presidents, Drs. John H. Foster, Houston, J. S. Anderson, Plainview, and R. R. White, Temple; secretary, Dr. Holman Taylor, Fort Worth (reelected); treasurer, Dr. W. L. Allison, Fort Worth; trustee, Dr. John S. Turner, Dallas; councilors: Dr. W. C. Dickey, Memphis, third district; Dr. W. A. King, San Antonio, fifth district (reelected); Dr. W. N. Wardlow, Corpus Christi, sixth district; Dr. A. C. Scott, Temple, twelfth district, and Dr. W. H. Blythe, Mount Pleasant, fifteenth district; delegates to the American Medical Association, Drs. Holman Taylor and Clay Johnson, Fort Worth, and Dr. C. A. Smith, Texarkana, and alternates, Drs. Joseph Becton, Greenville, Frank Paschal, San Antonio and O. L. Norsworthy, Houston. Houston was selected as the place of meeting for 1914.

GENERAL

French Physicians on a Visit.—Drs. Mouriquand and Leriche, professors agrégé of Lyons, France, who, as stated in THE JOURNAL of May 10, page 1473, were awarded the Falcoux and Crouzet prizes, respectively, by the Faculty of Medicine of Lyons, are visiting various points in the United States.

Medical Examiners to Meet.—The American Association of Medical Examiners will hold its annual meeting in Minneapolis, June 16, immediately preceding the meeting of the American Medical Association. Dr. Frank W. Foxworthy, Indianapolis, is president and Dr. George Strohbach, Cincinnati, Ohio, secretary-treasurer.

International Medical Congress.—It is announced from London by the committee of organization of the Seventeenth International Medical Congress, to be held there August 6-12, that the position of president of the section on ophthalmology, left vacant by the death of Sir Henry Swanzy, has been filled by the appointment of Sir Anderson Critchett. The subscription fee of $5 for the congress can be sent directly to the treasurer, 13 Hinde Street, London W., England. The wives and daughters of members can be inscribed for $2.50. Other news of the congress has appeared in THE JOURNAL from time to time and there is an item in the London Letter of this issue.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, May 3, 1913.

The International Medical Congress

Some further information may be given as to the International Medical Congress which will meet in London in August. In the section of the history of medicine a wide interpretation has been given to the subject. In some cases the papers will be more or less of an anthropologic nature. A paper on the history of the relations of medicine and vivisection will be read by Mr. Stephen Paget, secretary of the Research Defense Society. That the artistic side of the subject will be well represented is shown by the following titles: "Relations between Art and the History of Medicine," Hollander; "Physiology of Vision and Impressionism in Art," Leonard Hill, and "Painting in Relation to the History of Medicine," Corsini. Sir Shirley Murphy has promised a paper on the origin and growth of public health legislation. Sir William Osler will give an illustrated lecture on the earliest printed medical books. Dr. Sambon will discuss the light thrown by the healing practices of animals and savage men on the study of primitive medicine.

In the section of psychiatry, over which Sir James Crichton-Browne will preside, Janet will discuss psychanalysis; Dr. Adolf Meyer will read a paper on the psychiatric clinic, its aims, educational and therapeutic, and the results obtained in the promotion of recovery. Morselli will discuss the psychology of crime.

In the section of anatomy Dr. C. U. Ariens-Kapper of Amsterdam will read a paper on cerebral circulation and the precise function of the furrows of the brain.

In the section of physiology there will be a debate on the correlation of the organs of internal secretions [illegible]nces.

officer of Elmira from 1889 to 1894; died at his home after a long illness, April 29, aged 53. At a joint meeting of the Medical Society of the County of Chemung and the Elmira Academy of Medicine, May 2, eulogistic addresses were made and a committee was appointed to prepare suitable resolutions regarding the death of Dr. Reilly.

Alexander Gray Fell, M.D. University of Pennsylvania, Philadelphia, 1887; a member of the American Medical Association and president of the Luzerne County Medical Society in 1901; a school director of Wilkes-Barre and one of the most prominent practitioners of the Wyoming Valley; one of the staff surgeons of the Nesbitt West Side Hospital and Wilkes-Barre City Hospital; died at his home, May 1, from heart disease, aged 52.

George Hancock Ingalls, M.D. University of Vermont, Burlington, 1885; formerly a member of the American Medical Association; a member of the Massachusetts Medical Society and a councilor of the Roxbury District Medical Society; formerly a practitioner of Jamaica Plain, Boston; a member of the New Hampshire legislature in 1893 and 1894; died at his home in East Kingston, N. H., about May 5, aged 52.

Louis George Le Beuf, M.D. Tulane University, New Orleans, 1887; formerly a member of the American Medical Association and once president of the Orleans Parish Medical Society; one of the first to institute a campaign of education that yellow fever was contagious *only through the mosquito*; for several years coroner of Jefferson Parish; died at his home in Pass Christian, Miss., May 5, aged 47.

Albert G. Pickett, M.D. Medical College of Ohio, Cincinnati, 1847; Illinois Army Board, 1862; assistant surgeon of the Fiftieth Illinois Volunteer Infantry during the Civil War; thereafter a practitioner of Mattoon, Ill., until 1898, when he moved to Chicago; died at the home of his daughter in Urbana, Ill., May 5, from myocarditis, aged 86.

William Kirk Jameson, M.D. University of Michigan, Ann Arbor, 1866; a veteran of the Civil War, in which he served as surgeon of the Thirtieth Wisconsin Volunteer Infantry; for many years a practitioner of Muscoda, Wis.; died at the home of his daughter in Moscow, Idaho, March 24, from hemorrhage of the stomach, aged 77.

Michael Edward McGann, M.D. College of Physicians and Surgeons, Chicago, 1903; a member of the Illinois State Medical Society and a veteran of the Spanish-American War: a member of the executive board of St. Joseph's Hospital, Joliet, for the past five years; died at his home, May 7, from disease of the intestine, aged 38.

David Coggin, M.D. Harvard Medical School, 1868; a member of the American Ophthalmological Association and Massachusetts Medical Society; a specialist on diseases of the eye and ear, of Salem, Mass.; for many years in charge of the eye and ear department of the Salem Hospital; died at his home, May 7, aged 70.

James K. White, M.D. University of Louisville, Ky., 1877; a member of the American Medical Association; a member of the staff of the Beaver Valley General Hospital; for one term coroner of Beaver County; a member of the New Brighton School Board; died at his home in that place, May 4, aged 63.

Benjamin H. Barr, M.D. Homeopathic Medical College of Pennsylvania, Philadelphia, 1855; surgeon-in-chief of an army corps during the Civil War; for many years a practitioner of Philadelphia; died at the home of his daughter in Burlington, N. J., May 5, from senile debility, aged 85.

Charles Dickinson, M.D. Albany (N. Y.) Medical College, 1860; once president of the Scoharie County (N. Y.) Medical Society; for many years a practitioner of Seward; died at the home of his daughter in Cobleskill, N. Y., April 29, from cerebral hemorrhage, aged 79.

George W. McElveen, M.D. Baltimore University School of Medicine, 1885; a veteran of the Spanish-American War, in which he served in the hospital corps of the Thirty-Fourth Michigan Infantry, U. S. V.; died at his home in Detroit, May 11, aged 46.

Edmond Arthur Waggener, M.D. University of Louisville, Ky., 1871; Bellevue Hospital Medical College, 1873; a member of the Kentucky State Medical Association and a Confederate veteran; died at his home in Columbia, May 5, aged 67.

Carl Faber, M.D. Chicago Homeopathic Medical College, 1879; formerly of Blue Island and Monee, Ill.; a veteran of the Franco-German and Spanish-American wars; died at his home in Steger, Ill., April 26, from arteriosclerosis.

George R. Sanborn, M.D. Berkshire Medical College, Pittsfield, Mass., 1850; for more than half a century a practitioner of New Haven, Conn.; died at his home in Middlebury, Vt., April 22, from senile debility, aged 86.

William Luther Shollenbarger, M.D. Medical College of Ohio, Cincinnati, 1899; of Winton Place, Cincinnati; a member of the American Medical Association; died at the Bethesda Hospital, Cincinnati, May 5, aged 39.

George Washington Peddy, M.D. New Orleans School of Medicine, 1859; surgeon of the Fifty-Sixth Georgia Regiment, C. S. A., during the Civil War; died at his home in Newnan, Ga., May 6, from erysipelas, aged 75.

Charles W. McIntyre, M.D. University of Louisville, Ky., 1887; died in his office in Louisville, March 26, from the effects of carbolic acid, believed to have been self-administered with suicidal intent, aged 43.

Edward Russell Ogden, M.D. Northwestern University, Chicago, 1884; a member of the American Medical Association and Physicians' Club of Chicago; died at his home in Chicago, May 14, from pneumonia, aged 50.

J. D. Bradley, M.D. St. Louis College of Physicians and Surgeons, 1893; a pioneer practitioner of Sebastian County, Ark.; died in the Sparks Memorial Hospital, Fort Smith, April 30, from nephritis, aged 64.

James Samuel Tazewell Baird, M.D. Jefferson Medical College, 1852; for many years a practitioner in and around Asheville, N. C., died at his home in Beaverdam, N. C., April 22, from senile debility, aged 81.

Jeremiah Beattie, M.D. Cincinnati College of Medicine and Surgery, 1875; for thirty-eight years a practitioner of Salt Lake City; died suddenly at his home, May 7, from heart disease, aged 74.

William Ray Inghram, M.D. Hahnemann Medical College, Philadelphia, 1906; who went to Arizona a year later on account of his health; died at his home in Tucson, May 6, aged 35.

George M. Goodrich, M.D. Eclectic Medical Institute, Cincinnati, 1883; a member of the State Medical Society of Wisconsin; died at his home in Clintonville, May 5, from diabetes, aged 52.

John Mahon MacDonald, M.D. New York University, New York City, 1890; of Belleville, N. J.; died at the home of his brother in Red Bank, N. J., March 29, from heart disease, aged 45.

Thomas Nelson Watson Morris, M.D. University of Virginia, Charlottesville, 1881; of Poindexter; died at the home of his brother Hazelbrook, in Trevilians, Va., about April 28, aged 53.

Abel S. Cloud, M.D. University of Louisville, Ky., 1868; of Kiowa; a member of the Kansas Medical Society; died at the home of his son in Cherokee, Kan., about May 2.

Putnam Brinley, M.D. University of Pennsylvania, Philadelphia, 1851; of Hartford, Conn.; died in the Hartford Retreat, April 30, from senile debility, aged 87.

Evans M. Myers, M.D. University of Maryland, Baltimore, 1901; a member of the American Medical Association; died at his home in Bennet, Neb., April 29, aged 37.

C. D. Crawford, M.D. Washington University, St. Louis, 1868; formerly of Malden, Mo.; died at the home of his daughter in Pine Bluff, Ark., April 24, aged 77.

John Haven Emerson, M.D. College of Physicians and Surgeons, New York City, 1865; died at his home in New York City, May 4, from cerebral hemorrhage, aged 73.

John Theron James, M.D. University of Buffalo, N. Y., 1889; a life-long resident of Medina, N. Y.; died in the Rochester (N. Y.) General Hospital, May 4, aged 52.

Charles W. Slocum, M.D. Eclectic Medical Institute, Cincinnati, 1855; died at his home in Morenci, Mich., April 24, from cerebral hemorrhage, aged 80.

R. Durant Morford, M.D. Western Reserve University, Cleveland, 1882; of McKeesport, Pa.; died in the McKeesport Hospital, May 7, aged 58.

Frank Taylor, M.D. Saginaw Valley (Mich.) Medical College, 1900; died at his home in Spokane, Wash., May 1, aged 44.

William Henry Meredith, M.D. Jefferson Medical College, 1866; died at his home in Quakertown, Pa., about May 1, aged 69.

Robert Watts Eastman, M.D. University of Buffalo, N. Y., 1879; died at his home in New York City, May 5, aged 60.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

THE DUKET CONSUMPTION "CURE"

Giving the Results of Some Investigations

Two weeks ago we gave a brief outline of a so-called cure for consumption exploited by one Peter P. Duket, M.D., and now being financed by ex-Senator William Lorimer. The reply of Duket and his backers in the newspapers to the criticisms is that The Journal is making a personal "attack" and that no matter what Duket's personal shortcomings may be, the essential point is, does he produce "cures"? The Journal has made no "attack" on Duket personally; in fact, every effort has been made to avoid personalities.

To recapitulate briefly: In 1910, Duket was operating a "sanitarium" at Findlay, Ohio, where he exploited what he termed an "antiseptic lymph" for the cure of tuberculosis. At that time he claimed to produce cures in 90 per cent. of all cases in the "first stage" of consumption, in 75 per cent. of cases in the "second stage" and in 50 per cent. of those in the "third stage." Before that time he was advertising in the Toledo newspapers his "combination of vitalized and electrified air" as a "godsend to the sick"—"two trial treatments free."

THE CURE ESPOUSED BY A MEDICAL COLLEGE

The object of the present article is to show what Duket really accomplished with his "cure" when in Findlay. Before taking this up in detail, the following facts should be given our readers: The only reason that Duket and his cure are now being given any serious consideration is that recently the Bennett Medical College of Chicago has assumed to act as his professional sponsor while ex-Senator Lorimer is backing him financially. Duket seems to have approached the medical college at the psychologic moment. It was at a time when the newspapers were full of the Friedmann "cure"; when descriptions of serums for tuberculosis made splendid copy for newspaper "stories"; when the public imagination was fired with the therapeutic possibilities of secret—and therefore awe-inspiring—remedies. Bennett Medical College, then—whether from altruistic or ulterior motives, we are not prepared to say—seems to have decided to father the Duket "lymph," or, as the newspapers have it, "serum"; but capital was necessary—and straightway forthcoming from Mr. Lorimer. Whether Mr. Lorimer's interest in the Duket "cure" was prompted by a desire to get before the public in a more favorable light than that which he achieved in his political ventures, or whether it was a sincere desire to give humanity the benefit of some of his abundant wealth, need not be discussed. Motives in such a case are unessential. The facts are: a man of little education, of no scientific standing and of quackish tendencies has been given a certain professional recognition by the sponsorship of a medical college, and a financial standing by the aid of ex-Senator Lorimer.

WHAT HAS IT ACCOMPLISHED?

Duket claims to have "discovered" his "serum" or "lymph" nine years ago. What has he to show for it? So far as we have been able to discover, the main exhibit is a long list of death certificates. When conducting his "Tubercular Sanitarium" at Findlay, Ohio, Duket issued a prospectus containing a description of the "sanitarium" and a farrago of pseudoscientific nonsense about the "cure." The booklet also gave what purported to be reports of cases of tuberculosis in patients who were successfully treated by his "exclusive" method. Of the fifteen case-reports, in only three were actual names furnished. The remaining twelve were identified by initials and addresses. Of these twelve, four were Toledo patients, and it is manifestly impossible to obtain data regarding individuals who are known only by initials and who live, or did live, in a city of nearly 200,000 population. This left eight cases of patients, identifiable only by initials, and living in small towns, whom Duket claimed to have cured with his "lymph." Inquiries were addressed to physicians in these towns asking for such information as they could give us regarding the cases. We have received replies from four of them.

Here it should be said that the three cases described in Duket's booklet in which the full names and addresses were given are those of Henry Buske of Toledo, Herman Buske of Adrian, Mich., and Bessie Gartz of Toledo. The two Buskes are brothers and are both living; Miss Gartz, also, is living. These three seem to be Duket's forlorn hope in his present exploitation. Miss Gartz admits that she and the two Buskes were present at a consultation held in Adrian, Mich., a little while ago at which a representative of the Bennett Medical College was among those present. In the reports that follow, it should be noted that Henry Buske seems to have drummed up a good deal of "trade" for Duket at the time he was in Findlay.

PUBLISHED REPORTS—AND THE FACTS

Now for the reports on those cases, that we have been able to trace, described in the Duket booklet published in March, 1911.

What the booklet said: "Mrs. B. McC. ———, Circleville, Ohio. Admitted on Sept. 24, 1910. Weight 90 pounds. The disease had reached the stage of suppuration, or third stage. Left on Dec. 3, 1910. Weight 97 pounds. Feeling good."

What we found: Mrs. B. McC——, Circleville, Ohio, although reported to have left Duket's "sanitarium" in December, 1910, "feeling good," went back there in March, 1911. Her daughter states that she "never was any better any time while under this treatment." She died July, 1911, of pulmonary tuberculosis.

What the booklet said: "Mrs. F. McG. ———, Upper Sandusky, Ohio. Admitted on Oct. 26, 1910. Weight 95½ pounds. Left on Jan. 14, 1911. Weight 105½ pounds. The disease had reached the third stage and well advanced. The patient is now in good health."

What we found: Mrs. F. McG——— went to a reputable physician in Upper Sandusky a few weeks after her return—"in good health"—from Duket's "sanitarium." The physician reports that he "found her in very advanced pulmonary tuberculosis with some involvement of the digestive tract." This diagnosis was substantiated by a bacteriologic examination made at the Hygienic Laboratories of the Ohio State Board of Health. Mrs. McG——— then went to another physician, who advised an operation, to which she submitted. She died a few days after the operation. The physician who first examined her after her return from the Duket place says: "I am satisfied she would have died of tuberculosis in three months at most from the time I first saw her."

What the booklet said: "Mrs. C. L. ———, Arlington, Ohio. Admitted on Nov. 12, 1910. Weeight 94½ pounds. Left on Jan. 1911. Weight 120¼ pounds. The disease had reached the third stage. The patient is now feeling well."

What we found: Mrs. C. L——— was not benefited by the Duket treatment. Our informant writes: "The lady was up and able to do part of her work *before* treatment, which she was never able to *thereafter*." Mrs. L——— died of tuberculosis in July, 1912.

What the booklet said: "Mrs. C. F. K. ———, McComb, Ohio. Admitted on Nov. 12, 1910. Weight 94½ pounds. Left on Jan. 22, 1911. Weight 108 pounds. The disease had reached the third stage. The patient is now feeling well."

What we found: Mrs. C. F. K——— died of pulmonary tuberculosis in April, 1911, three months after leaving the Duket place, "feeling well."

SOME MORE "CURES"

These are all the reports we have obtained up to date regarding the cases described in the Duket booklet. We have, however, been able to obtain reports of other cases of which Duket—with more shrewdness than frankness—makes no record in his booklet. We have signed statements for the matter we are about to give and also have certified copies of the death certificates of the individuals whose cases are described. To shield the relatives of the unfortunate victims from an unenviable publicity, we give merely the initials of the persons involved:

Mr. S. C———. First taken sick in 1911. Went to Findlay in the fall, where he took three treatments, staying about two months. Duket said to have promised to cure him in three treatments, but the patient returned unimproved. Died July, 1912.

Mr. A. K———'s mother states that her son first went to the Ohio state sanatorium for tuberculosis, where he remained under treatment until June, 1910. Came home much improved. Later he went to Duket's "sanitarium," where he received three injections. The "treatment" cost $210. Duket is claimed to have said that three treatments would cure him. After giving the treatments Duket is said to have told the patient he was cured and could go home. He died January, 1913.

Mr. F. J. K———'s mother states that her son first heard of Duket in January, 1911, from an acquaintance of Henry Buske. Duket and Buske called to see him and Duket is said to have promised a cure after three treatments. Treatments cost $195. Had the last treatment in March, 1911; died two weeks later.

Mr. W. L———'s wife said that her husband heard of Duket through a man who worked with Henry Buske. Went to Duket's "sanitarium" in June, 1910, and stayed six weeks. Received four or five injections. Returned home weaker than before going away. Died November, 1910.

Mr. G. C. S———'s father stated that his son was persuaded to go to Findlay by the man who was financing Duket's "sanitarium." Was told that if he would take three injections three weeks apart he would be able to return home cured. Was to pay $25 for each treatment and $15 a week for board. Went to the Duket "sanitarium" in July, 1910. Was given four injections. Death occurred in September, 1910. Duket is said to have collected for the fourth treatment after threatening suit.

Miss W. W———, according to her mother, heard of the Duket treatment through a relative of Henry Buske. Buske sent Duket to call. Duket is said to have claimed he could cure Miss W——— in four treatments. She went to Findlay in January, 1911, and had three treatments, paid $25 for each treatment and $15 a week in advance for room. After six weeks Duket advised her to return home, which she did in March, 1911. Four weeks later she died. Her mother states that her daughter "had not coughed or raised sputum" until after beginning the Duket treatment.

Miss M. S. C———, who is still living, states that she heard of Duket through Henry Buske and that Duket promised the first treatment would relieve her cough and that two more treatments would make a definite cure. Duket wanted to give a fourth treatment but she would not permit it. When giving the second treatment, Duket failed to locate a vein and had to make two incisions. Miss C——— has four large scars as a result of the "treatment." She states that she never had any hemorrhages, that the treatment did not modify the cough and that she lost weight while at the "sanitarium." She also states that Duket had only one nurse at any one time at the "sanitarium" and that this nurse also had to do the cooking. When Miss C——— refused the fourth treatment, Duket told her she would not live three months. This was three years ago. Miss C——— is still living.

Such, then, are the records of some of the Duket cases of which we have learned. To give in brief the results of our investigations, the following list is printed. Unquestionably it could be greatly enlarged if a more extended search were made but, as it is, it should be sufficient to demonstrate the absolute worthlessness of the "cure" and the utter unreliability of the man exploiting it. These cases are not selected.

PATIENT	ADDRESS	CONDITION
1. Miss M. S. C.	Toledo, Ohio	Alive
2. Mr. S. C.	Toledo, Ohio	**Dead**
3. Mr. A. K.	Toledo, Ohio	**Dead**
4. Mr. F. K. K.	Toledo, Ohio	**Dead**
5. Mr. W. L.	Toledo, Ohio	**Dead**
6. Mr. G. C. S.	Toledo, Ohio	**Dead**
7. Miss W. W.	Toledo, Ohio	**Dead**
8. Miss B. G.	Toledo, Ohio	Alive
9. Mrs. E. O'H.	Findlay, Ohio	**Dead**
10. Mrs. A. M. E.	Lucas County, Ohio	**Dead**
11. Mrs. S. E. U.	Toledo, Chio	**Dead**
12. Mr. O. B.	Toledo, Ohio	**Dead**
13. Mr. H. B.	Toledo, Ohio	Alive
14. Mr. H. B.	Adrian, Mich.	Alive
15. Mrs. B. McC.	Circleville, Ohio	**Dead**
16. Mrs. F. McG.	Upper Sandusky, Ohio	**Dead**
17. Mrs. C. L.	Arlington, Ohio	**Dead**
18. Mrs. C. F. K.	McComb, Ohio	**Dead**

A SECRET "CURE"

What is the Duket "cure"? We do not know. The medical profession does not know. Secrecy is quackery's handmaid. To the public there is something mysterious in a medical treatment put forward under exaggerated claims and whose composition no one but the exploiter knows.

In investigating the Duket cure, the Journal's representative was told that while operating the Findlay concern, Duket bought his drugs from Niles, Mich., and that it was thought that he was using a widely advertised "consumption cure" known as the Hyer-Baldwin preparation. While this product does not seem to have a fixed composition, it has been claimed to consist of:

Guaiacol carbonate	12.5	per cent.
Salicylic acid	37.5	per cent.
Glycerin	50	per cent.

This mixture, according to its exploiters, is to be injected intravenously. Whether Duket's "cure" is the same as the Hyer-Baldwin "cure," we do not know, but there is a striking similarity in the claims made for, and the method of exploiting, the two preparations.

GOVERNMENT AID FOR QUACKERY

One more point must be referred to before closing. As we said in the previous article, the United States Public Health Service has been called on to make an investigation of Duket's "cure." Through whose influence this was accomplished we do not know, although the newspapers of the country ascribe it to Mr. Lorimer. It is an outrageous state of affairs when the machinery of a scientific department of the United States government can be set in motion for no other purpose than that of advertising a secret nostrum exploited by a man of no scientific standing and of unsavory professional reputation. Duket's cure has no more claim to serious consideration on the part of the United States Public Health Service than has Yonkerman's Tuberculozyne, Hill's Consumption Cure, Tuberclecide, Nature's Creation, Lung Germine, Oxidaze, Eckman's Alterative or any other of the scores of "consumption cures" with which the country is flooded. This much is certain: If the report of the Public Health Service is an unfavorable one, then it should not only be given the utmost publicity but should be couched in such terms as to deal a smashing rebuke to those who have seen fit to utilize the government as an advertising asset. If this is done, consumption-cure fakers may, in the future, hesitate to follow Duket's course.

In the meantime, Duket, by carefully selecting his cases so that the "treatment" is given only to those who in the ordinary course of events may be expected to live for four or five years at the least, will have accomplished what he seeks. And the medical college which is standing sponsor for him will have obtained much free advertising. And the unhappy consumptive is all this time paying the bill in blasted hopes—a refinement of cruelty that is a disgrace to a civilized community.

Association News

THE MINNEAPOLIS SESSION

Golf Club Courtesies—Details of Special Trains

The Minneapolis Number of The Journal, May 10, gave full particulars about the Minneapolis session, the programs, hotels, railroad rates, excursions, meeting places, etc.

GOLF OPPORTUNITIES

The various country clubs situated around Minneapolis will offer the use of their golf links to golf enthusiasts who may be attending the American Medical Association convention and may desire a game.

Cards may be secured by writing the chairman of the Committee on Arrangements, Dr. F. C. Todd, Donaldson Building, Minneapolis, or by inquiring at the Bureau of Registration during the meetings.

GREAT WESTERN TRAINS

The following special trains are announced on the Great Western, the details concerning which were not ready for announcement in the Minneapolis Number:

From Chicago.—"The Journal Special" will leave Grand Central Depot, Harrison and Fifth Ave., 6:40 p. m., Monday, June 16, arriving at Minneapolis, 8:00 a. m. the following day.

"The Rochester Special" will leave at 6:30 p. m. Sunday, June 15, arriving Rochester, 6:30 a. m., the following day. Convention tickets are good via Rochester with stop-over without extra charge.

From Kansas City, St. Joseph and Des Moines.—"The Southwest Medical Special" will leave Kansas City at 1:45 p. m., Sunday, June 15, St. Joseph, 4:00 p. m., Des Moines, 9:20 p. m., arriving Minneapolis, 7:45 a. m., the following day.

From Denver.—"The Colorado Special" will leave Denver via the Union Pacific road at 3:00 p. m., June 15, and from Omaha via the Chicago Great Western at 7:00 a. m., Monday, June 16, arriving Minneapolis same evening.

From Omaha.—"The A. M. A. Train" will leave Omaha at 8:20 p. m., Monday, June 16, arriving Minneapolis, 8:00 a. m., June 17.

For details and reservations, members can consult any representative of the road.

Correspondence

Request for Embryologic Specimens

To the Editor:—The embryologic collection at the Johns Hopkins Medical School has now grown sufficiently large to be of great value to the medical profession. Over one hundred special papers on various topics in human embryology are based on this collection, and it is for this reason that I again appeal to physicians for more abortion specimens to help along the studies in this subject. Not only does this collection prove to be of value in the study of the anatomy of the human embryo, but it also sheds light on the cause of abortion, a question which concerns very much the general practitioner. In every hundred pregnancies there are about twenty abortions, among which there are seven pathologic ova and one monster. The clinical histories in these cases show that some sort of uterine disease produces the abortion, and for this reason it seems plain that the pregnancies would have resulted in normal births had the uterus been normal. Therefore from a practical point of view it is important to study the cases clinically as well as normal and pathologic development of ova and embryos.

Substantial financial aid has been secured to study human embryology on a large scale, and to do this successfully much more material with good clinical histories must be collected. A number of studies are under way, the successful termination of which is dependent on the intelligent cooperation of physicians in active practice.

The collection is not only preserved in a fire-proof building, but it is also given every possible attention by a competent staff of scientific and technical assistants. The histories, notes, drawings and photographs are also carefully preserved. As occasion demands specimens bearing on the various phases of the subject—ovulation, implantation, diseases of the uterus and ovum, and serial sections of normal and pathologic embryos—are distributed to competent investigators elsewhere. Every attention is also given to physicians sending specimens, so that they depend on this "clinical laboratory" for gratuitous expert advice.

As the types of pathologic ova found in tubal pregnancies differ from those obtained from the diseased uterus, which in turn differ markedly from those of lower animals, there is every reason to hope for information which bears on the cause of monsters, of sterility and possibly the study of eugenics. These subjects as well as the anatomy of embryos interest us now, but to make headway in this study we must procure many specimens and they can be obtained only through the cooperation of physicians in active practice.

Those who are interested in this embryologic project are asked to send to us all abortion material which they secure in their practice. Practically perfect material is obtained when the fresh specimen is fixed as soon as possible, without cutting the membrane, in a large quantity of 10 per cent. dilution of liquor formaldehydi in water. It should be floated in this fluid and should never be forced into a bottle or wrapped in cotton.

When placed in a bottle completely filled with the formaldehyd solution, the condition of the specimen imitates that of the fetus in utero, and the specimen may be safely sent by express. Fill up the bottle before shipping it; if there is no air space it is almost impossible to injure the embryo by shaking it.

Send all specimens to the undersigned at the Johns Hopkins Medical School.

Franklin P. Mall, M.D., Baltimore.

American Surgical Association Desires Articles on Fractures

To the Editor:—The Committee on Fractures of the American Surgical Association desires to have two reprints of any paper dealing with the non-operative or operative treatment of open or compound fractures or the medicolegal relations of roentgenography to the diagnosis and treatment of fractures which has been published within the last five years. If authors have no reprints, the committee would be pleased to receive memoranda of the places of publication.

John B. Roberts, M.D., Chairman,
313 South Seventeenth St., Philadelphia.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

CRITICISM OF THE PRESCRIPTION OF A CONSULTANT

To the Editor:—A consultant in a case of chorea due to rheumatism supplements an arsenic and bromid course of treatment by the following directing the tablets to be used to overcome insomnia:

℞ Lupulin
Scutellarin āā gr. ss
Ergotin
Macrotin āā ¼ gr.
Hyoscyamin sulph. 1/1000 gr.
Zinc bromid 1/10 gr.
(Tablets as prepared by Upjohn Co.)

I shall be glad to see The Journal's comment on this prescription.

1. Should an ordinary druggist be prepared to fill this without depending on the ready-made stocks of the larger pharmaceutical houses?

2. If the formula is a useful one, could not a framework be constructed that would lend itself to the needs of a physician well acquainted with the action of each individual ingredient, and

desiring to modify the proportions of each in accordance with the needs?

3. Does it not seem a singular coincidence that the doctor (whom the patient's family look up to as a leader of his profession) should find this precise formula exactly suited to his case?

4. What will be the separate and combined action of the six ingredients in the doses given?

5. What should be the attitude of the attending physician toward a consultant displaying such profound pharmacologic erudition?

6. Is there any comment he can reasonably make to the parents of the patient?

W. R. T.

Answer.—There is no need of argument as to the impropriety of such a prescription, for it would puzzle any pharmacologist to explain its physiologic or therapeutic action, if it has any.

1. Any druggist ought to be able to fill the prescription, although some of the products named, such as scutellarin, for example, are of uncertain composition and may not be in his stock.

2. The utility of the prescription is not sufficient to make it worth while to produce any model framework to be varied at the judgment of the practitioner. Surely the intelligent practitioner will be able to meet all the indications of an ordinary case with a more scientific prescription, one less on the shotgun order.

3. We fail to find any indication of a "coincidence" in the incident as presented by our correspondent. It was once thought that hops, from which lupulin is derived, was an efficient and harmless remedy for insomnia. This seems to be the ingredient of the formula which probably suggests its use in insomnia as a routine pill for such patients. A "pet formula" is not in itself objectionable, but a physician must always be careful in using it. This caution is specially needed in a consultation in which the consultant is called as an expert to assist in a given case. The attendant evidently feels that in this instance the prepared pill proves that the consultant failed to consider carefully the problem presented in the particular patient. An intelligent and sympathetic cooperation in the interest of the patient between the attendant and the consultant will result in a course of treatment adapted to the individual case.

4. The action of ergotin, hyoscyamin and zinc bromid can be found in any up-to-date treatise on pharmacology. The action, as well as the potency, of the other ingredients is very uncertain. Except as the drugs complement each other as a sedative, the action of the combination is an unanswerable question.

5. The patient is under the care of the attendant, who should be governed by his own opinion as to whether or not harm is being done the patient. If not. he can conscientiously overlook the failures of the consultant, as he hopes that the consultant will overlook his own. If, however, he believes that the patient is not receiving proper treatment, the attendant should firmly but courteously insist on the course that he considers best. There will seldom be serious difference if the treatment is fully discussed by two physicians, both of whom have their interest centered in the welfare of the patient. If, by any chance, the attendant and the consultant cannot agree, a third physician, selected by the patient, should be called into the conference. Should it not be possible to arrange for this additional consultant, the first consultant should withdraw from the case.

6. Usually, it is unnecessary and unwise to make any comment to the patient or the parents concerning a difference between the physicians, other than to state frankly that the attendant is assuming entire responsibility for the treatment. Should the progress of the case be unsatisfactory and the patient become dissatisfied. the attendant should withdraw, leaving the patient entirely free to select a physician to direct the future treatment. even though it is probable that the patient's choice will be the previous consultant.

EFFECT OF SILVER NITRATE PROSTATIC INJECTIONS—ACTION OF TANNIC ACID ON URETHRA

To the Editor:—1. Have injections of nitrate of silver into the prostatic urethra ever been followed by abscess of the seminal vesicles, prostatic abscess or such a hemorrhage as to necessitate an external urethrotomy?

2. Have insufflations or saturated solutions of tannic acid been used as a topical application to the prostatic urethra? If so, have such complications followed as blood-poisoning, abscess of the seminal vesicles or abscesses of the follicles of the prostate gland, caused by the tannin coagulating the albumin of the tissues and forming an insoluble albuminate and so blocking up the ejaculatory and prostatic ducts?

Subscriber.

Answer.—1. Silver nitrate injections used in sufficient strength (over 5 per cent.) to act as a corrosive might produce necrosis of tissue, and abscess formation with hemorrhage, although not of a grade so severe as to necessitate external urethrotomy.

2. Tannic acid, in saturated solution or insufflated, is of itself so powerful an astringent that this action would have a tendency to close up ducts and sinuses, but it would not unite with the albumin of the tissues to produce an insoluble albuminate. Such a compound could only be formed with the free mucus in the prostatic urethra. There is no reason why tannic acid in full strength should be used as a topical application to the posterior urethra.

SKIN DISEASES AND CLEANLINESS IN INSTITUTIONS

To the Editor:—In a large institution for children, in spite of unusual precautions as to isolation, use of individual towels, bubbling cups, etc., we have been unable to prevent the spread of skin and other contagious diseases.

Would you consider it of any advantage to add calcium hypochlorite to the water used in scrubbing floors, beds, etc., or to the water in the bathing-tank?

M. M.

Answer.—The reason that all sorts of minor skin diseases are so prevalent in large institutions, in spite of all efforts of precaution, is that children, like animals, are indifferent to dirt, and therefore are dirty. They have no hesitation, also, about using each others' things, so that infectious diseases become the common possession of many. Nothing but complete isolation and constant surveillance will prevent them from using each others' hats, combs, drinking-cups and other such things, and it is by these personal articles that infections are usually spread. In addition, children's skins are very sensitive and particularly vulnerable to pus infections and infections by the common parasites such as lice and ringworm. All these factors make it almost impossible to prevent infections in children who are thrown together in large schools or large institutions.

The addition of calcium hypochlorite would be of little or no advantage for the purpose mentioned. For scrubbing floors, beds, etc., it would be much better to use 1 : 1,000 solution of corrosive sublimate with an equal quantity of a similar solution of hydrochloric acid. There is no antiseptic which could be used in sufficient strength in a swimming-tank to be effective. The best thing to do with that is to have the tank supplied with fresh water, to keep the youngsters from wallowing over each other, and to see to it that they use individual towels and do not get their clothes mixed. Shower-baths should also be provided and each person compelled to take a shower-bath with soap before going into the tank.

LITERATURE ON FLUID-CORE GOLF-BALLS

To the Editor:—Please let me know what literature there is in regard to eye injuries resulting from cutting open golf-balls containing acid or other sight-destroying compounds.

G. I. Hogue, M.D., Milwaukee, Wis.

Answer.—The following may be referred to:

Wood, C. A.: Burns of Eyeball from Contents of So-Called "Water-Core" Golf-Balls, *Ophth. Rec.*, October, 1912.

Nance, W. O.: Severe Burn of the Eye from Contents of Fluid-Core Golf-Ball, *Jour. Ophth. and Oto-Laryngol.*, November, 1912.

Carpenter, J. T., and Baer, B. F.: Inflammation of Eye Resulting from Explosion of Golf-Ball, *Pennsylvania Med. Jour.*, December, 1912.

Crigler, L. W.: Burn of Eyeball Due to Caustic Contents of Golf-Ball, The Journal, April 26, 1913, p. 1297.

Water-Core Golf-Balls, editorial, The Journal, April 26, 1913, p. 1307.

INSURANCE COMPANY ASKING SUPPORT OF PHYSICIANS

To the Editor:—I have been solicited to buy shares in the Royal Life Insurance Company, head offices 108 South La Salle Street, Chicago, at $30 per share. In the event of my buying shares I was to be appointed associate medical director and be the examiner for the county in which I reside. As a further inducement I was told that one-half of the mortuary savings would be divided among the associate medical directors. The company will begin to write its business June 15. Can you give me any information regarding this company or its prospects for the future?

S. J. M.

Answer.—There have been similar inquiries regarding this company from other sources. In some it is said that the proposition to invest came subsequent to appointment and acceptance by the physician.

A condition precedent to an insurance company's doing business in Illinois is the deposit with the state insurance department of $100,000 for the protection of policy-holders and the further requirement of law as to a reserve. In other states insurance regulations must be complied with. None of these conditions has, we understand, been met. Radical departure from other customs in insurance business rests in the fact that it is proposed to issue policies from each state, and any bank or banker will be "authorized to act as claim agent." The "sop" to the doctor is thrown in the plan to have districts in every state with associate medical directors and medical examiners, who must be stockholders, to supervise and assist agents and who, as further reward, will share in 50 per cent. of the "mortality savings," according to their holdings of stock.

Roseate estimates of what can be done are given in the prospectus, of which an expert in life-insurance says: "It is full of misleading statements as to the returns an investor is likely to receive." Like nostrum exploitation, it promises too much on the panacea order. The plan proposed is so involved, hazy and withal embryonic that it will not appeal to the careful physician.

COBRA VENOM TEST FOR SYPHILIS COMPARED WITH THE WASSERMANN REACTION

To the Editor:—What is the value of the cobra venom test for syphilis as compared with the Wassermann test?

F. L. WILHOIT, M.D., Louisville, Ky.

ANSWER.—This test appears to be less sensitive than the Wassermann test in parasyphilitic affections and in syphilis of the nervous system. In general the present evidence tends to show that it is not so reliable as the Wassermann reaction, although it may be serviceable in confirming it, or possibly in complementing it in latent cases. It should be remembered, however, that the test has not yet been applied to a sufficient number of cases to permit very definite conclusions to be drawn.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POSTGRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

MEDICAL ORGANIZATION IN ENGLAND

From time to time during the last two years, THE JOURNAL has discussed the development of medical organization in Great Britain and the changes consequent on the discussion and adoption of the Lloyd George national insurance act. The provisions of this law and its effect on medical men and the public were freely discussed prior to its final adoption. Owing to the unsatisfactory terms of compensation and other objectionable provisions, the British Medical Association at first refused to endorse the measure and called on its members to refuse to accept service under it. Later on, however, it was found impossible to retain a united front on this question, so that the opposition of the organized medical profession in England has gradually been withdrawn. It has been predicted in all quarters, however, that the passage and effective operation of this law would produce important and far-reaching changes in professional conditions in England. This prediction is apparently borne out by the increasing amount of discussion in the leading British medical periodicals, of the advisability of reorganizing the medical profession on a trade-union basis. This discussion has apparently reached a climax in a recent issue of the *British Medical Journal*, which contains, as its leading editorial, a discussion of "Trade-Unionism and Medicine," as well as a special article discussing the subject from a legal point of view.

The special article is unsigned and therefore is evidently prepared by the editorial staff of the *Journal*. According to the writer, at the annual representative meeting, held at Liverpool last year, the question of the establishment of a medical union, registered under the trade-union acts, was discussed. The solicitor of the association stated that the legal difficulties in the way of converting the British Medical Association into a body which could come under the provisions of the trade-union acts were considerable. Future discussion of the question was postponed until the next annual meeting. In the meantime, however, a medical union was organized in Leicester, which has since obtained recognition under the trade-union acts, while another body, known as the National Medical Guild, has been organized and has applied for registration under the same acts. Eleven of the fourteen members of the council of the latter organization are residents of London.

These developments have led to a lively discussion in British medical journals on the relation between trade-unionism and medicine. The plan of organization and method of conduct of trade-unions in Great Britain is carefully prescribed in the trade-union acts. One of the most important questions for determination in this connection is the limitations of powers and privileges under such a plan of organization. The primary object of the trade-union is to make the terms of service, including the remuneration of all persons concerned, reasonably good and so to maintain them, while an ancillary object is to assist the members in defending their rights and help them to make better provisions for their welfare. Most, but not all, of the disputes in which trade-unions have engaged have turned on the question of compensation. A medical union must be prepared to deal with unreasonable or improper demands unduly increasing the labors and responsibilities of its members, and with attempts to reduce just compensation for services. It must have the power to defend its members individually, as well as its own acts collectively. The criticism which has been made against the existing organization of the British Medical Association is that its powers and resources for collective and individual defense are inadequate and that its control over its members is insufficient to insure effective action. This is admitted by the most loyal members of the association. To assume from this, however, that a medical trade-union is the only alternative or the best solution is a long step and one which coolheaded members of the association will want to consider very carefully before taking. The article endeavors to put the question in the form of a syllogism, as follows: "An effective union of the profession is desirable. A union registered under the trade-union acts is an effective union. Therefore the organization of a medical union under the trade-union acts is desirable." This statement, the writer says, would be water-tight if a union registered under the trade-union acts were the only effective union possible. As an alternative proposition, he suggests the organization of a union which shall be registered under the companies acts; in other words, the formation of a corporation rather than of a trade-union.

After quoting at length from the trade-union acts of different years, the membership provisions of the recently organized Leicester union are discussed. The objects of this organization are given as follows:

1. To regulate the relations and conduct of medical practitioners as between themselves, and between medical practitioners and their employers.

2. To regulate the rates of payment and condition of service of clubs, friendly societies, dispensaries and other forms of contributory contract practice, and the terms and conditions on which medical service shall be given to persons of limited income.

3. To impose any other restrictive conditions which may be considered desirable on the conduct, by members of the union, of the trade or business of medical practitioners carried on by them.

To further these objects, the Leicester union has adopted the following methods: the establishment of funds for the promotion of a public medical service for persons unable to pay, the promotion of school clinics for the treatment of children unable to pay, the giving of legal assistance to members, the promotion of legislation for the protection of the union and for the general and material welfare of its members, the advising of members in ethical matters, the promotion of the interests of the medical profession, the general amalgamation of other bodies having similar objects and the establishment of branches and subdivisions. There is an entrance fee of one guinea ($5.25) and annual dues of the same amount.

The rules of this organization forbid any member to consult with or meet any medical practitioner who does not conform to the rules of the union, to take or treat any patient at a lower rate than that prescribed by the union, to act for any insurance committee, society or organization which does not conform to the rules of the union, or to canvass or advertise for patients. Any member found guilty of conduct detrimental to the honor and interests of the union, or calculated to bring the business, trade and profession of the medical practitioner into disrepute, is subject to expulsion.

The National Medical Guild, in addition to the objects set forth by the Leicester Union, provides for the employment of the funds of the guild for political objects, for insurance of members against death, illness or damages, for the publication of books and periodicals to further the ends of the guild and for the acquirement of such property as may be necessary.

Comparison of these objects with the powers of the British Medical Association under its present charter raises the question, "What can a trade-union do for medical men that a voluntary association cannot do?" The advantages from a legal point of view do not seem conclusive. The real power of the trade-union depends on three points: (1) its ability to include so large a majority of persons engaged in one calling that the minority will be negligible, as far as influence is concerned; (2) the constancy of its members in abiding by the regulations of the union, as decided by the majority; (3) the power of the union, in the event of failure to come to an amicable agreement with employers, to induce its members to refuse to work until satisfactory conditions are secured.

On the first point, a trade-union would have no advantage over a voluntary association. The proportion of persons in any one calling who would affiliate with such an organization would depend on the successful management of the organization rather than on the exact form which the organization might take. The power of the trade-union as compared with a corporation in Great Britain is practically the same.

On the second point, the constancy of members to the organization will depend entirely on the benefits which the organization provides for its members. The hold which trade-unions have on their members lies in the fact that a tradesman who leaves his union forfeits his rights to the benefits which it offers, while the power which a union has over its members in case of dispute with employers is based on a sense of loyalty to one's associates, as well as the fear of losing any benefits involved or the fear of social or professional ostracism.

Perhaps the most significant sentence in the special article is found in the closing paragraph, in which the writer says, "Every one realizes that the insurance act will have the effect of increasing rather than diminishing the need for an effective system of professional defense against encroachment by the government, by friendly societies and other forms of contract practice, and by individuals." An explanation of the present situation of the medical profession in Great Britain is to be found in the opinion, here expressed by the official organ of the British Medical Association, that the government and society at large are not affording the medical profession fair or equitable treatment or just compensation for their services and that united action on the part of physicians is necessary.

Commenting editorially on this article, the *Journal* says that there is danger, in the existing situation, of mistaking the means for the end. The end is a united profession, unanimously seeking certain objects. Because a similar end has been the goal of trade-unionism, it does not necessarily follow that trade-unionism is the only means by which such an end can be secured. Dr. Cox, the president of the North of England branch, discussed this question in an address in 1907, in which he stated that in those trade-unions in which he had been able to secure information, the amounts paid out by the members for organization and for protective purposes only, apart from sick and benevolent benefits, amounted to from an eightieth to a fortieth of the member's total annual income, and that one explanation of the results secured by trade-unionism in Great Britain was that the members were willing to work for and pay for the results desired. Three courses are open to the medical profession in the present situation. These are (1) to obtain a charter from the crown, (2) to register under the companies act or (3) to register under the trade-union acts. The British Medical Association at present is registered under the section of the companies act which permits registration of an organization which does not trade for the profit of its individual members. This provision is eminently similar to the law in force in many of our own states, providing for the incorporation of organizations not for profit.

In 1907 the British Medical Association applied for a crown charter, but the application was refused. The editorial concludes: "The strength of trade-unionism lies not in the formation or laws, but in the union and solidarity it has bred. This solidarity it has brought about partly by encouraging the growth of a feeling of fellowship among men engaged in the same calling and partly by politicly making the growth of this feeling keep pace with the material interests of the individual members. The proposal to form a medical union or unions is one which needs to be threshed out."

It will be noted that neither the writer of the special article nor the writer of the editorial attempts any positive opinion on medical trade-unionism. Discussion of this question in England has been precipitated by the recent passage of the Lloyd George national insurance act. This measure was brought about by a large number of complicated social causes and conditions, with most of which the medical profession had nothing to do. In order to improve the condition of the British workingman and his family, to relieve pauperism and improve social conditions, Lloyd George decided that it was necessary for the state to furnish protection for the workingman against avoidable disease and incapacity caused by illness. The assumption, on the part of the state of the responsibility for the medical care of working men is clearly a step in the direction of state socialism. In formulating his plan for this measure, Lloyd George consulted the interests and wishes of all classes involved, except the medical profession, which, under his plan, was to furnish the services necessary for the care of those included in the scheme for industrial insurance. When the first draft of the bill was made public, the terms of compensation and service provided for physicians were seen to be so unfair and inadequate that an immediate storm of protest arose from the medical profession. Unfortunately, however, due partly to the commercializing of the British medical profession through friendly societies, medical clubs and other forms of what is generally termed "contract practice," as well as through the fact that the organized medical profession had for years made little or no effort to educate the public as to its objects or the character of its work, the profession was left to fight its battle practically alone, with little or no public support. Unable to hold its members in line on the program agreed on, it was practically forced, after a long and bitter struggle, to take what it could get in the way of compensation and conditions of service. The unionizing of the medical profession is one of the remedies now proposed as a relief for the economic evils with which the profession is threatened.

The experience and the present situation of our British professional brethren are and should be most instructive to American physicians. The principal lessons which can be drawn therefrom are the avoidance of any form of contract practice or similar arrangements which tend to commercialize the medical profession and, equally important, the cultivation of the closest possible relations with the people so that the growing importance of the work of the medical profession may be understood and appreciated and the support of the public secured in carrying out its higher aims.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

DELAWARE: State Society and Homeopathic, Dover and Wilmington, June 17-19. Secretary of the Medical Council, Dr. Henry W. Briggs, 1026 Jackson St., Wilmington.

IOWA: Capitol Building, Des Moines, June 2-4; State University, Iowa City, June 5-7. Sec., Dr. Guilford H. Sumner, State House, Des Moines.

KANSAS: Topeka, June 10. Sec., Dr. H. A. Dykes, Lebanon.

KENTUCKY: Armory, Louisville, June 3-5. Sec., Dr. J N McCormack, Bowling Green.

LOUISIANA: New Orleans, June 5-7. Sec., Dr. A. B. Brown, 108 Baronne St., P. O. Box 1060.

MARYLAND: Regular, 1211 Cathedral St., Baltimore, June 17. Sec., Dr. J. McP. Scott, Hagerstown; Homeopathic, Baltimore, June 13-14. Sec., Dr. O. N. Duvall, 1817 N. Fulton Ave.

MICHIGAN: Ann Arbor, June 10-12. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.

MINNESOTA: Pathological Laboratory State University, Minneapolis, June 3. Sec., Dr. Thomas McDavitt, Lowry Bldg., St. Paul.

MISSISSIPPI: Capitol Bldg., Jackson, June 3-4. Sec., Dr. E. H. Galloway.

MISSOURI: Gymnasium of St. Louis University, St. Louis, June 16-18. Sec., Dr. J. A. B. Adcock, Jefferson City.

NEBRASKA: Lincoln, May 28-29. Sec., Dr. C. P. Fall, Beatrice

NEW JERSEY: Capitol Bldg., Trenton, June 17-18. Sec., Dr. H. G. Norton, 429 E. State St., Trenton.

NEW YORK: June 24-27. Chief of the Examinations Division, Harlan H. Horner, Department of Education, Albany.

NORTH CAROLINA: Morehead City, June 12. Sec., Dr. Benjamin K. Hays, Oxford.

OHIO: Columbus, June 2-5. Sec., Dr. George H. Matson, State House.

SOUTH CAROLINA: Columbia, June 10. Sec., Dr. A. Earle Boozer, 1806 Hampton St.

TEXAS: Austin, June 4-6. Sec., Dr. W. L. Crosthwait, Suite 1110 Amicable Bldg., Waco.

VIRGINIA: Richmond, June 24-27. Sec., Dr. Herbert Old, Norfolk.

WYOMING: State House, Cheyenne, June 25-27. Sec., Dr. J. B. Tyrrell, Laramie.

Oklahoma April Report

Dr. J. W. Duke, secretary of the Oklahoma State Board of Medical Examiners, reports the written examination held at Oklahoma, April 8-9, 1913. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 70. The total number of candidates examined was 11, including two osteopaths, all of whom passed. Eight candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Birmingham Medical College	(1911) 83; (1912)	79
College of Physicians and Surgeons, Little Rock	(1911)	70
College of Physicians and Surgeons, Los Angeles	(1912)	77
Rush Medical College	(1908)	88
Northwestern University Medical School	(1912)	81
Medical College of Indiana	(1898)	80
Barnes Medical College	(1905)	79
Memphis Hospital Medical College	(1911)	79

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Birmingham Medical College	(1911)	Mississippi
University of Louisville	(1911)	Kentucky
University of Nashville	(1905) Mississippi; (1909)	Tennessee
Lincoln Memorial University	(1910)	Tennessee
Memphis Hospital Medical College	(1911)	Tennessee
University of the South	(1900) (1908)	Tennessee

The following questions were asked:

OBSTETRICS AND HYGIENE

1. When do you use ergot in obstetric practice, and for what purpose? 2. Give in their order the three most common presentations. 3. How long can the child live before delivery with the placental circulation cut off? What precautions should be used to prevent compression of the cord in breech presentation? 4. What symptoms would cause you to suspect a rupture of the uterus? How would you manage a case? 5. What are the stages of labor? 6. Define abortion, miscarriage, premature labor. 7. Define puerperal septicemia. Give diagnosis and treatment. 8. What precautions would you use to prevent inflammation of the mammary glands? Give in detail your treatment of mammary abscess. 9. Give instructions for the prevention of the spreading of typhoid. 10. Is cerebrospinal meningitis contagious? If so, how are the germs conveyed?

BACTERIOLOGY AND PATHOLOGY

1. What is acute miliary tuberculosis? Name three varieties of tubercle. 2. Name the lesions usually found in the second and third stages of syphilis. 3. What is hypertrophy of the heart? Give three causes for same. 4. How would you diagnose croupous pneumonia from catarrhal pneumonia by microscopic examination? 5. Name three ways by which you can determine whether a certain organism is or is not pathogenic. 6. How would you make a bacteriologic examination of water suspected of fecal contamination? 7. Name a simple method of producing a pure culture of the typhoid bacillus. 8. Name three malarial parasites and the kind of malaria caused by each parasite. 9. Name three pathologic changes that may result from cerebral hemorrhage. 10. Name three pathologic changes that take place in peritonitis.

GYNECOLOGY

1. Differentiate fibroid, pregnancy, ascites, fat. 2. Diagnose and treat tuberculous endometritis. 3. Give indications for and technic of operation for amputation of cervix. 4. Give indications for and technic of trachelorrhaphy. 5. Make diagram showing relation of uterus, tubes, ovaries, vagina, bladder and rectum. 6. Differentiate pudendal hernia, abscess of Bartholin's gland, and tumor of labia. 7. Describe venereal warts. Give etiology and treatment. 8. Vulvitis. Give etiology and treatment. 9. Give indications for knee-chest posture in office treatment. 10. Give indications for use of hot vaginal douche.

MATERIA MEDICA AND THERAPEUTICS

1. State the sources and dose of salicylic acid. 2. Describe the therapeutic uses of glycerin. 3. Name four principal coal-tar derivatives and give physiologic action. 4. Name the principal potassium salts. Give dose and use of each. 5. Name three vegetable and three mineral astringents with dose of each. Treat the following diseases, giving doses of drugs used, their therapeutic effect, diet and prognosis: 6. Typhoid fever. 7. Pneumonia. 8. Pellagra. 9. Cerebrospinal meningitis. 10. Scarlet fever.

TOXICOLOGY AND MEDICAL JURISPRUDENCE

1. Describe how subterranean wounds may be produced. How many kinds of open wounds? Name them according to the way they are produced. 2. How does electricity produce death? 3. Give some of the conditions simulating death. 4. Name some peculiarities of some of the special senses which would furnish important evidence in relation to identity. 5. Give some of the symptoms of organic nervous diseases. 6. How does chloral hydrate produce death? Name lethal dose. 7. How does chloroform produce death? 8. What are the important symptoms of poisoning by digitalis? 9. By what method of examination would you ascertain that a person was suffering from a fatal dose of quinin? 10. How does antipyrin produce death?

PHYSIOLOGY

1. Define physiology. 2. Tell the functions of the third, fourth and fifth cranial nerves. 3. What is the function of the uterus? 4. What is the function of the portal vein? What veins form it? 5. What is an enzyme? 6. Describe reflex action. 7. What is the function of the lymphatic system? 8. Tell the distribution and function of the pudic nerve. 9. Describe the cardiac cycle. 10. What nerves form the solar plexus?

PHYSICAL DIAGNOSIS

1. Describe the general method of palpation. 2. In what condition should the examiner's hands be before applying them? 3. What regions are studied by a simultaneous application of both hands? 4. What condition may cause total abolition of fremitus? 5. When is palpation of vocal fremitus of most practical value? 6. What does splashing fremitus signify when felt against the thoracic wall, shaking the body? 7. How many attributes of percussion sounds; name them. 8. Describe artificial vocal resonance (plegophonia). 9. Describe Broadbent's sign in inspection. 10. What is learned by percussion when we have simultaneous extension of the area of cardiac dulness toward both sides and upward of the pericardial sac?

ANATOMY

1. Give the origin and distribution of ulnar nerve. 2. Describe the sternum. 3. Locate saphenous opening and name an important vessel passing through it. 4. In disease of upper chest why is there frequently pain on inside of upper arm and about the shoulder? 5. How do the ventricles of the brain communicate with each other and with the subdural space? 6. Give a rule for locating the fissure of Rolando. 7. Name the arteries supplying intestinal tract from pylorus to anus. 8. Describe arrangement of gray and white matter in spinal cord. 9. Describe method of division and termination of capillary bronchial tubes. 10. Name a racemose gland. Describe its structure.

CHEMISTRY

1. Give the antidote for carbolic acid. For formaldehyd. 2. Give the chemical composition of iodoform. 3. How does permanganate of potassium act as a disinfectant? 4. What is the toxic agent in ptomains? 5. What is the formula of sulphuric acid? 6. Give the method of urinalysis for albumin and sugar. 7. Would you use iodin on the skin after a mercuric solution? 8. What is the law of Avogadro? 9. What is the antidote for arsenic? 10. What is chemistry?

SURGERY

1. What are the varieties of ankylosis? 2 Give symptoms and treatment of fractures of the nasal bones. 3. State the most common seat of fracture of the clavicle and describe a method of treatment. 4. Describe the treatment for fracture of lower end of the humerus. 5. Describe a modified circular amputation of the leg. 6. What are the indications for excision of the knee-joint? 7. How are wounds classified? 8. Give a full description of the operation for thyroidectomy. 9. Give the indications for the removal of the mammary gland. 10. Describe an operation for circumcision.

Russian Move Against Opium.—It is reported that the Russian Department of Agriculture has prepared a law prohibiting the culture of the poppy plant in the Transbaikal, Amur, and Maritime provinces. According to this law, not only the cultivation of the poppy will be a criminal offense, but also the smoking of opium, storing or purchasing it, as well as the purchasing of utensils used for smoking opium.—Vice-Consul H. Fred Newhard, Vladivostok, in the *Daily Consular Reports*

Medicolegal

New Rule Announced for Canned Goods

(Bigelow vs. Maine Central Railroad Co. (Me.), 85 Atl. R. 396)

The Supreme Judicial Court of Maine holds that, on the assumption that the plaintiff was made sick by eating canned asparagus furnished her by the defendant company in its dining car, the defendant was not liable in damages therefor, in the absence of an express warranty. What duties the law may impose on manufacturers of food products, which turn out defective, the court does not assume to decide.

The court says that of little less importance than the appearance of the great achievements of the last century is the establishment and development of the canning industry in this country and in other parts of the world. It may be said that the art of canning, if not invented within the last century, has, at least, assumed the vast proportions which it has now attained, within a comparatively few years. It involves a unique and peculiar method of distributing, for domestic and foreign use, almost every product known to the art of husbandry.

The wholesaler, the retailer and the user of these goods, whether in the capacity of caterer, seller or host, sustain an entirely different duty, respecting a knowledge of their contents and quality than prevails with regard to knowing the quality of those food products which are open to the inspection of the seller or victualer. With reference to these it may well be considered, as has been held, that having an opportunity to investigate, and thereby to know the quality of their merchandise, they are charged with a responsibility amounting to a practical guaranty.

But. on such a state of facts as this case presented, a situation arises that cannot in the practical conduct of the canning business fall within that rule. No knowledge of the original or present contents of a perfect appearing can is possible in the practical use of canned products. They cannot be chemically analyzed every time they are used. Accordingly, the reason for the rule having ceased, a new rule should be applied to the sale and use of canned goods that will more nearly harmonize with what is rational and just.

The statement of facts before the court showed that the asparagus served to the plaintiff was of a very high brand, sold by a most reliable firm. guaranteed under the pure food law, and without fault or blemish discoverable to the eye. to the smell, or taste. It was apparently a perfect can of what it purported to contain. The plaintiff in February must have known it was a canned product when she ordered it. On her order she was entitled to a reputable brand, packed and inspected in accordance with approved methods, and the law implied a warranty on the part of the defendant to furnish it. This obligation was fully met.

Evidence Supporting Conviction of Unlawfully Practicing Medicine

(Mueller vs. State (Tex.), 153 S. W. R. 1142)

The Court of Criminal Appeals of Texas affirms a conviction for unlawfully practicing medicine, with a penalty of a fine of $100 and twenty-four hours in jail. The court says that the uncontradicted evidence clearly showed that Mueller, by his public advertisements in newspapers, and to others, publicly offered to practice, and professed to be able to cure practically any and all diseases, and invited all afflicted to call on him for that purpose; but in his advertisements and in his talk to many of his patients he would tell them specifically he made no charge. In his advertisements he stated, "Positively no charges made, but the labor is worth the hire," and repeatedly stated this to some of his patients. However, the evidence disclosed that numerous of his patients, whom he did treat, paid him indirectly. One paid to his wife in his presence; others by doing work for him; others by making him or his wife presents; another by renting him a house and collecting no rent for several months. To one he prescribed medicine and furnished it. Others paid him money directly for his treatment of them. One witness, whom he treated repeatedly and for some time, stated that, in discussing the treatment and his charges, he said: "'I won't charge you anything [I don't know how many times he said that], nothing; but, if you make me a present, it is welcome.' . . . I made him a present; it was in money. Sometimes I would hand him $1, and sometimes $2 or something like that. I never told him, 'Here is your money.' I just put it in his hand, and he never looked at it. He just put it in his pocket." It was also shown that he called himself "Dr. Mueller," and was generally known and called "Dr. Mueller," and that was the title he gave himself. He was shown not to have any license registered. The evidence clearly justified the verdict.

When the state offered to prove by the editor of a newspaper, and to introduce Mueller's published advertisements therein, showing that he professed to cure any and all diseases, and inviting everybody afflicted to come to him for treatment, he objected. because such advertisement did not show that he was practicing. or offering to practice, medicine, and that in said advertisements he did not claim to be a physician or practitioner of medicine belonging to any school, and he expressly stated in said advertisements that he made no charge. In his advertisements, he called himself "Professor" Mueller; but the whole of it showed, and showed only, that he was offering to practice. and the testimony by the witnesses showed that he did actually practice, medicine on men, women, and children, and that was his profession. The evidence was admissible.

Society Proceedings

COMING MEETINGS

American Medical Association, Minneapolis, June 17-20

American Academy of Medicine, Minneapolis, June 13-15.
Amer. Medico-Psychological Assn., Niagara Falls, Can., June 10-13.
American Proctologic Society, Minneapolis, June 16-17.
Maine Medical Association, Portland, June 25-26.
Massachusetts Medical Society, Boston, June 10-11.
New Jersey Medical Society, Spring Lake, June 10-12.
North Carolina State Medical Society, Morehead City, June 17.
Rhode Island Medical Society, Providence, June 5.
South Dakota State Medical Association, Vermilion, May 27-29.

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS

Ninth Triennial Session, held at Washington, D. C., May 6-7, 1913

(Concluded from page 1570)

The Life of Tissue Outside the Organism from the Embryologic Standpoint

DR. ROSS G. HARRISON, Yale University, New Haven: The method I have used in my observations is that of the "hanging drop culture." In the study of neuroblasts I have found that the nerve fiber is not the outgrowth of the cell, but is formed from the protoplasmic bridge which exists everywhere in the organism between the cells and cannot be isolated. I thought I would try to see what the nerve-cell did when there is no protoplasm. The parts of the central nervous system of the embryo were dissected out and then transplanted into a drop of lymph on the cover-slide. Transplanted to lymph this tissue undergoes changes in the course of a few days and spreads out and flattens because of the liquefaction of the lymph, and many cells wander out from the tissue. I then watched what took place in the nerve-cells. I also took portions of various other tissues of the embryo. I found that cells from the epidermis differentiated cilia; the pavement cells differentiated queerly. After twelve hours, it can be noted that the nerve fibers have grown out a long distance. These fibers come from isolated cells. I watched the character of the movements for six hours at intervals of eight minutes and found that the movements were very rapid —about 1 micron per minute. To show that they are real nerve fibers, I have used the specific stain which shows neurofibrillae. It is a specific nerve tissue without doubt. The protoplasmic activity has formed nerves. If we cut off these fibers there is a regeneration of the peripheral parts. In order to produce a perfect reproduction of the tissue we must keep the tissue alive as long *in vitro* as it would have lived in the organism from which it was taken. If the tissue has been taken from an animal that lives on an average four years, then we should be able to keep the tissue alive for that length of time. This method, while producing cell division and multiplication, has failed to show any form development; the growth remains simply a mass of cells.

In discussing the effect of the medium on growth and differentiation we find that the tissues are differentiated in salt solution, but we have need of solid support or there is no movement of the cells and no growth. If nerve fibers are on a solid support when they leave the cells, this may be a visible chemical process. This brings me back to the nerve problem, and it seems evident that the protoplasmic bridges referred to are between the fibers forming the support. The results we have obtained show that this method is applicable to the study of embryonic cell movement and differentiation.

The Life of Tissues Outside the Organism from a Pathologic Standpoint

DR. ROBERT A. LAMBERT, New York: Those of us who are directing our energies to problems relating to the nature and cause of disease are interested in the new methods of growing cells apart from the organism mainly on account of its possible application to the study of the various morbid processes affecting the human body. The new method offers several very definite advantages in that it allows one to observe directly under the microscope changes taking place in living functioning isolated cells, thus making it possible to pursue with ease many questions in the field of pathologic histology, the solution of which has seemed to wait on the discovery of a technic of this kind. In the second place, it permits us to eliminate many factors which in experiments on the animal body are a source of much confusion, as, for instance, nervous control. In the third place, the isolation of some single factor for the purpose of special study is made possible. In the fourth place, we are able to introduce more easily into an experiment known and measurable factors, such as change in the physical and chemical composition of the medium, introduction of specific toxins and poisons, variations in temperature, etc. It is obvious that not all problems having to do with the activities of cells are open to attack by these methods, since not every tissue can be made to grow *in vitro* up to this time. The number of tissues that can be successfully cultivated is not inconsiderable, including connective-tissue cells, bone, cartilage, endothelium, skin and corneal epithelium, intestinal epithelium, malignant tumors and possibly also thyroid and kidney epithelium. Certain cells, such as ganglia cells, seem to survive, though they do not proliferate. The problems which present the most fruitful field of application may be classified under three headings: (1) morphologic questions; (2) questions in immunity, including cancer immunity, cellular and bacterial immunity; (3) problems relating to the cultivation and study of the viruses of certain infectious diseases, especially those in which the specific intracellular bodies have been described.

Cytotoxins are easily demonstrable in tissue cultures, and cancer immunity is not a type of cytotoxic immunity. In my experiments on the question of cytotoxin specificity two series of guinea-pigs were immunized, respectively, with rat sarcoma and rat embryo skin. Plasma from each series of animals was used for cultures containing both kinds of tissue. These experiments show that sarcoma may immunize completely against skin and vice versa. There is no evidence of even a relative specificity. Red blood-cells will immunize against other tissues.

Another field of pathologic investigation in which this new method may be applied is the study of viruses and specific lesions of infectious diseases in which the living agent has not yet been identified, as rabies, vaccinia, variola and measles. In association with Dr. Steinhardt and Dr. Poor I have made efforts at studying rabies and vaccinia. We have tried to see if Negri bodies would show any development or multiplication *in vitro* when fragments of brain from rabid animals were incubated in blood-plasma. No development or multiplication of Negri bodies in rabid brain cells took place *in vitro*, so far as we could determine. We found, however, that in the control preparations in which normal brain alone was incubated, the same structures also appeared. In the latter case the bodies certainly represented some degenerative changes in the brain-cells. Therefore we regarded our results as favoring the idea that the Negri body is not a parasite, but a specific cell degeneration.

The Life of Tissues Outside the Organism from the Physiologic Standpoint

DR. MONTROSE T. BURROWS, New York: There is no line between the morphologic and the physiologic aspects of this subject. The object in growing tissues outside of the body is that they may be observed in the living condition; this cannot be done by Loeb's methods. In 1910 I began to study cultures with the idea of developing a method which would be applicable for practical experimental purposes. Lymph has hitherto been used as a culture medium, but this can be obtained only in small quantities, and its consistency is not always constant. I therefore turned to blood-plasma as a promising medium and prepared fibrin from the blood of chickens. My observations confirmed the results that Dr. Harrison reported. I think that it would be a good idea to test the applicability of these methods to adult tissues. My observations include experiments on the tissues of dogs, cats, rats, guinea-pigs and man. Tissues from all of these sources grow luxuriantly, except those from man. The human plasma went into solution at once. There are some small growths in the case of human tissue, but only a few. The undue liquefaction of the medium leads to the early death of the tissue. Practically all other tissues cause liquefaction in varying degrees, but it takes place slowly.

I have experimented with the chick embryos in many liquids. They grow rapidly in isotonic sodium chlorid solution of various strengths, and the growth is prolonged and increased by the addition of potassium chlorid. The growth is the same as that in a wound. The connective-tissue cells grow as isolated cells in the surrounding medium. The growth in each variety of cell is characteristic of its kind. The nerve-cells appear as axis cylinder cells, the blood-cells as amebic cells. The growth depends on the medium and is oftener greater in weak solutions than in strong ones. Adult striated muscle succumbed, but embryonic muscle wandered, divided and differentiated. The growth keeps in an inactive state as long as six months. To effect this preservation, the tissue is placed in a drop of plasma and the whole tightly sealed. If there is sufficient medium the tissue will retain its life for a long time.

This field offers a prospect of reproducing every form of cellular activity seen in the body. Wound-healing has been imitated by culture through the movement of epithelial cells. If two portions of tissue are placed near one another in the medium, each will send out cells toward the other and the tendency will be for the cells to fill the intervening space. Harrison has called attention to the need of solid body support to the growing cells. Contact with the cells, unless violent, does not stimulate movement. A single cell in a culture medium tends to move away and liquefy from a large mass rather than from a small one. All movement is due to a chemical process. Given the diameter of a wound, by the application of the principles of cell proliferation I can predict the form of healing. It has been suggested that by an application of a certain theory wounds may be made to heal in a few hours. Practically, it does not happen in so short a time. The fibrin lying between the edges of the wound is too thick and contracted in proportion to the amount of fibrin present. Cell development begins only when the cells cease to wander and locate in a clot. It is better to have a colony of cells in the culture medium as this pro-

extraneous matter. The temperature was 100 F., pulse 112 and regular, respirations 24. The abdomen moved only slightly on respiration, and this on the left side only. There was a rigidity and general tenderness all over the right upper and lower abdominal quadrants. Pain was noticed on deep pressure in the right loin. The right flank was dull, the liver dulness was normal. On rectal examination, thickening and tenderness was found high up on the right side. The condition of acute appendicitis was diagnosed. Two hours after admission the patient developed marked and typical tetany in both hands, and the pulse rose to 120. Her general condition suddenly became grave, and an immediate laparatomy was performed. She had never had tetany before. The abdomen was opened, and an appendix abscess containing about 2 oz. of stinking pus was evacuated. The appendix was retrocecal and its tip was bound down to the lower pole of the right kidney. There was a perforation about 1 inch from the end, and a concretion had escaped. The appendix was removed with some difficulty and a large drainage tube inserted. The patient made an uneventful recovery. This case is the only one Hughes has been able to find in which tetany was associated with acute appendicitis.

Indiana Medical Gazette, Calcutta

April, XLVIII, No. 4, pp. 129-168

21 Trichostrongylus Colubriformis (Giles 1892), a Human Parasite. C. Lane.
22 Arsenic in Treatment of Kala-Azar. F. Roux.
23 Sanatorium Treatment for Phthisis in Civil Hospital. H. S. Matson and G. Singh.
24 Sanitary Requirements in Construction of Slaughter-House (Abattoir) in India. C. C. Murison.
25 Acute Yellow Atrophy of Liver. C. H. Smith.
26 Control of Eye in Cataract Operations. F. W. Sumner.
27 Extraction of Lens in Capsule. F. F. S. Smith.
28 Case of Bagdad Sores, Showing Apparently Long Incubation Period. R. S. Keelan.
29 *Case of Ovarian Fetation. F. C. Fraser.
30 Unusual Case of Enteric Fever (Typhoid). E. C. Taylor.
31 Case of Hat-Pin in Duodenum. K. L. Batavyal.
32 Rough and Ready Field Sterilizer. R. S. Kennedy.

29. **Ovarian Fetation.**—Briefly, the history of the case cited by Fraser is as follows: The woman was admitted with an abdominal tumor which she herself had noticed for about twelve months. She believed herself to be pregnant, but it was difficult to see on what grounds she based this as she stated that her periods had been quite regular up to date. She had noticed no quickening, nothing in fact save the steadily growing tumor. She was a multipara and a little milk could be squeezed from the breasts, a point of no significance in a multipara. When admitted she was screaming with pain, but her general condition was good, the abdomen being fairly lax and the pulse full and slow. On palpation a large, centrally placed tumor was made out, molded below into the pelvis and rising out of it as far as two inches above the umbilicus; the latter, however, was much displaced upward and was considerably nearer the ensiform than the pubes. The uterus could be felt perched on the front of the mass. The tumor was fairly smooth, cystic in parts, but hard in others, especially on the right; no fetal heart could be heard. The shape of the abdomen, except for the situation of the umbilicus, resembled a seven months' pregnancy.

Abdominal section was performed the following day, and on opening the abdomen a cystic tumor was disclosed, densely adherent to the omentum and intestines. After much ligaturing off, the tumor was freed except below. At this stage of the operation the cystic mass was accidentally punctured and a dark grumous fluid began to escape. On widening the puncture, the knife came down on bone and revealed a fetus, which on removal was found to be six and a half to seven months old. It had a dense clothing of lanago which was easily removed as the fetus was partially macerated. The uterus was so much part and parcel of the sac that hysterectomy was performed. The right tube and ovary were normal, the left tube, enormously lengthened, ran across the sac, its lumen from uterine to fimbriated extremity was patent and normal so that it was clear the gestation had not originated in it. The cavity of the uterus was but little enlarged; the left ovary was absent and was evidently spread over the walls of the sac.

Journal of Tropical Medicine and Hygiene, London

April 15, XVI, No. 8, pp. 113-128

33 Trypanosome Causing Disease in Man and Animals in Sebungwe District of Southern Rhodesia. E. W. Bevan.
34 *Filaria Loa Cases*: Continuation Reports. G. C. Low.
35 Climatic and Other Factors Influencing Health of Europeans in Uganda and *East Africa*. *A. R. Cook.*

Lancet, London

April 26, I, No. 4678, pp. 1147-1216

36 Operative Treatment of Malignant Disease of Mouth and Pharynx. W. Trotter.
37 Bacteriologic Evidence in Support of Intestinal Intoxication. J. C. G. Ledingham.
38 *Vaccination for Various Infections with Living Micro-Organisms. W. Broughton-Alcock.
39 **Tests for Aceto-Acetic Acid*, Including Simple New Test. W. H. Hurtley.

38. **Vaccination with Living Micro-Organisms.**—Broughton-Alcock describes the clinical observations and results from the vaccination of 150 patients as a curative method of treatment. In twenty-six cases of uncomplicated acute gonorrheal urethral discharge treated he has but once seen the discharge cease and failed to find any gonococci during three or four weeks. He does not attach any value to this result. He has tried in varied doses autogenous, non-autogenous and polyvalent living sensitized vaccines. To one patient he gave 100,000,000 non-sensitized living gonococci from a twenty-four hours' culture direct from a urethral discharge. There followed no good effect, no local or general reaction. Broughton-Alcock also tried the associated vaccination of living sensitized staphylococci albi (E) and streptococci cultures from a discharge, but these also failed to ameliorate the condition. No other treatment than that by vaccination was employed. He also adds that no patient who was treated suffered from any extension of the infection or complication.

The cases of discharge with complications are divided into two categories: (a) orchitis and epididymitis; (b) rheumatism, tendinitis, periarthritis, arthritis with exudation. In all twenty-five patients were treated. In section (a) the results were most satisfactory. Most patients were free from pain after the first injection; a few needed two. The two remaining patients were not free from pain until the third was given—all within a week. The large dose seemed to give the quicker relief. It took about three weeks to reduce the infiltration to the size of a pea, a nodule remaining in the globus minor. There were two cases of relapse, both apparently due to prolonging the interval, for rapid amelioration followed the next injection. Broughton-Alcock saw no relation between rapidity of relief and the previous duration of the infection. In section (b) there were four cases. After the first injection and within forty-eight hours acutely inflamed joints that one could barely touch, in one case of fifteen days' duration, were freely movable without pain. The exudation disappeared in three days. Vertebral pain and painful non-suppurating ganglions were also rapidly relieved by the first injection. The cure persisted when patients were seen one month later. The only instances in which there was not complete relief within a week were those of subacute tendinitis without exudation. They necessitated at least one to three weeks' injection treatment.

Broughton-Alcock's impression from experience is that great value lies in big doses, and that sensitized gonococci rapidly produce or stimulate a body reaction. He could start with a dose of 500 to 3,000 million sensitized gonococci without a very severe local or general reaction, and the doses could be augmented or similar injections given beneficially within seventy-two hours. Up to the present he has seen no advantage of the living sensitized gonococci over those allowed to die, and the preparation and injection require very delicate technic. Assured that the microorganism is adequately sensitized, Broughton-Alcock found a safe and beneficial procedure is to commence with 20,000,000 staphylococci or streptococci and 200,000,000 gonococci (dead), and to augment rapidly and as high as indicated, basing the injections on reaction, local family. The patient seems dull and stupid as he describes his symptoms, in marked contrast to the alert self-observation of the true neurasthenic. The expression seems vague and empty, and others may testify to changes in character and social demeanor. These should suggest oncoming paralysis even when physical examination reveals nothing suspicious. The Wassermann reaction and lymphocytosis in the cerebrospinal fluid throw still further light. He has always found the Wassermann reaction positive in the cerebrospinal fluid in all cases of unmistakable progressive paralysis. He remarks that treatment has not progressed in the last few years to keep pace with the progress in differential diagnosis. The main point is prophylaxis. The striking refractory behavior of the paralysis to mercury, salvarsan and iodin, in connection with the clinical picture and tissue findings are all hard to reconcile with the presence of spirochetes in the cortex unless we accept that the spirochetes have become so modified during the long interval since early infection that they resist all therapeutic measures. It is possible also that the spirochetes in the cortex lie at a distance from the blood-vessels and thus escape the action of the drugs introduced into the blood. The meninges may not be permeable for the drugs although permitting the passage of [illegible] spirochetes. This possibility suggests the necessity of sup[illegible]enting the measures now in vogue by means to increase [illegible]ermeability of the meninges, possibly by drugs to augment [illegible]ction and by venous congestion by means of a constricting band around the neck. In any event, the resu[illegible] a beautiful research show that the treatment The reaction [illegible]sults of recent should be made the Which the color [illegible] of progressive paralysis since we have [illegible]on of the acute [illegible]ject of a new and vigorous onslaught deepens for [illegible]earned that it is no "metasyphilitic" or "para- explana[illegible] syphilitic" infection but an active infectious process.

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Deutsche medizinische Wochenschrift, Berlin

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April 10, No. 15, pp. 681-728

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Jahrbuch für Kinderheilkunde, Berlin

April, LXXVII, No. 4, pp. 383-504

106 *Permeability of Walls of Infant Intestine. (Die Durchlässigkeit des Magendarmkanales für heterologes Eiweiss bei ernährungsgestörten Säuglingen.) F. Lust. Commenced in No. 3. H. Hahn.
107 Whey in Infant-Feeding. (Anwendung der Molketherapie bei ruhrartigen Darmkatarrhen und ihre Erfolge.) E. A. Frank. See Abst. 117, p. 1404.

106. Permeability of Intestinal Wall for Alien Albumin.—Even in the new-born, moderate amounts of foreign albumin may be ingested without its penetrating the normal intestinal wall. With advancing age the tolerance increases. Lust experimented on 100 children with egg albumin and found that a quantity equal to that contained in two eggs could be given without its passing through the intestinal wall and being demonstrated in the blood or urine in healthy children. But in diseased conditions of the intestinal tract he could find albumin in the blood and urine when much smaller quantities were given. The permeability of the intestinal wall was greatest in acute intoxications. Precipitating sera were used to demonstrate the albumin in the blood. It appeared in the urine more readily than in the blood. Lust remarks that the albumin of cattle and horse sera is less suitable for the test than egg albumin. This test may be of value clinically in determining the condition of the intestines, for recovery may take place even when albumin passes into the blood in considerable amounts.

Medizinische Klinik, Berlin

April 13, IX, No. 15, pp. 567-610

108 Overfatigue. (Uebermüdung.) A. Schmidt.
109 *Diabetic Coma. (Das Wesen und die Behandlung des Coma diabeticum.) F. Rolly.
110 Tumors in the Lungs. (Ueber Komplikationen und besondere klinische Verlaufsweisen der Lungengeschwülste.) A. Fraenkel.
111 Tuberculin Salve Reaction. (Studien über Tuberkulin-Percutanreaktionen.) F. Wegerer.
112 Calcium in Therapeutics. (Ueber Calciumtherapie.) P. Saxl.
113 *Tubercle Bacilli in the Blood-Stream. (Vorkommen von Tuberkelbacillen im strömenden Blute.) H. Dreesen.
114 Analysis of the Dissociated and Athetoid Motor Disturbances in Traumatic Hysteria. A. Wimmer.
115 Hemorrhage from the Uterus of New-Born Infants. A. Juda.
116 Internal Hemorrhage the Seventh Day After Contusion of the Spleen. H. Hahn.
117 Urobilinogen in Urine as Index of Liver Disease. (Kurze Bemerkung zur differentiellen Diagnostik der Affektionen der Leber.) E. Münzer.
118 Differential Blood-Count. (Die Differenzierung der weissen Blutzellen in der Zählkammer.) R. Lenzmann.

109. Diabetic Coma.—Rolly has been examining the blood in hundreds of patients in the last few years to determine its electric tension. The list includes a number with diabetic coma. While in health the blood shows moderate alkalinity, in eleven cases of diabetic coma there was an acid reaction in three; in the others the blood proved to be alkaline. One patient succumbed to the coma who had an entirely normal reaction in the blood. These findings indicate that the coma and the fatal termination could not have been due to the action of acids alone. The patients who showed an acid reaction were given sodium bicarbonate up to such amounts that the blood reaction became normal, and yet the general condition did not improve and the fatal outcome was not averted. Diabetic coma is thus proved to be not a pure acid intoxication in the sense of Naunyn. Experience has shown that coma once developed is beyond our influence. Treatment must therefore aim to prevent its development or to arrest it in its incipiency. Sodium bicarbonate should be given freely as it promotes the elimination of the acetone bodies. If the coma is already installed, Rolly advises intravenous injection of a liter of a 3 to 5 per cent. solution of the bicarbonate, some by the mouth and injecting 50 gm. of the solution several times a day by the rectum. In addition he advises infusion of from 3 to 5 liters a day of saline with possibly venesection just preceding. A mild purgative may aid in the elimination of the poison; it may help to rinse out the stomach and intestines although Rolly has never witnessed any benefit from this himself. Still more important are stimulants and drugs to promote diuresis.

113. Tubercle Bacilli in the Blood-Stream.—Dreesen examined the blood of seventy patients and found tubercle bacilli in 74 per cent. of thirty-one patients with unmistakable tuberculosis; in 55 per cent. of nine suspects, and in 46 per cent. of thirty free from any signs of tuberculosis. He thus obtained positive findings in 60 per cent. of the total seventy cases but inoculation of 128 animals was followed by development of tuberculosis in only one instance.

Münchener medizinische Wochenschrift

April 15, LX, No. 15, pp. 793-848

119 *Physiologic Surgery. R. Klapp.
120 Experimental Salvarsan Treatment. (Verhalten des Nervensystems gesunder Kaninchen zu hohen Salvarsandosen.) B. Doinikow.
121 *Technic for Testing Kidney Functioning. (Notiz zur Funktionsprüfung der Niere.) K. Schlayer.
122 Eosinophilia Under Arsenic Treatment. (Ueber allgemeine und lokale Eosinophilie bei Ueberempfindlichkeit gegen organische Arsenpräparate.) H. Schlecht.
123 Exploratory Injection of Salvarsan. (Die praktische Verwendbarkeit der provozierenden Wirkung des Salvarsans.) Kall.
124 Cerebral Symptoms under [illegible] [illegible]arsan. ("Vasocommotio cerebri," ein neuer Symptom[illegible] ungen schwerster Art nach Salvarsaninfusionen, eine mittelbare Folge des Wasserfehlers.) M. Müller.
125 Quadruplets and Their Mothers. (Vierlinge und Vierlingsmütter.) H. Hauser.
126 Rupture of Gravid Uterus in Cesarean Section Scar. G. Schwarz.
127 Localization of Foreign Body in the Eye. M. Reichmann (Chicago).

119. Physiologic Surgery.—Klapp remarks that a book on the behavior of the organs under pathologic conditions is needed, written from the standpoint of the surgeon—a companion to Krehl's "Pathologic Physiology." Both surgical physiology and physiologic surgery require further development, and he cites numerous instances where empiric methods have proved their usefulness and further study of the physiology involved has explained the reasons for the benefit from them. The old treatment of diffuse peritonitis on the same principle as treatment of an abscess, proved a mistake, and progress has come as physiologic conditions became more and more respected, leaving the major part of the work to the peritoneum itself and refraining from anything that will lower the vital powers of the peritoneum. He advocates sifting all methods and selecting always the ones which resemble most closely physiologic conditions. He hopes that the recent research on keeping tissues alive outside of the organism will result in the discovery of some fluid which can be regarded as absolutely physiologic. To date we know of nothing of the kind; physiologic salt solution is far from the ideal. Blood-serum seems to be proving the best nutrient medium in Carrel's work in this line, thus showing that it is the most physiologic. But its use for infusion and rinsing out the peritoneal cavity is questionable on account of the individual differences in blood-serum. He has given up trying to rinse out the abdominal cavity with diffuse peritonitis on account of the lack of a fluid which would be free from all chemical action on the peritoneum, and he merely aspirates out all of the exudate with a large vacuum tube before he rinses or dabs the cavity dry. Rehn ascribes great importance to restoration of the abdominal pressure, and his method of immediate closi
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April, LXXVII, No. 4, pp. 383-504

106 *Permeability of Walls of Infant Intestine. (Die Durchlässigkeit des Magendarmkanales für heterologes Eiweiss bei ernährungsgestörten Säuglingen.) F. Lust. Commenced in No. 3. H. Hahn.
107 Whey in Infant-Feeding. (Anwendung der Molketherapie bei ruhrartigen Darmkatarrhen und ihre Erfolge.) E. A. Frank. See Abst. 117, p. 1404.

106. **Permeability of Intestinal Wall for Alien Albumin.**—Even in the new-born, moderate amounts of foreign albumin may be ingested without its penetrating the normal intestinal wall. With advancing age the tolerance increases. Lust experimented on 100 children with egg albumin and found that a quantity equal to that contained in two eggs could be given without its passing through the intestinal wall and being demonstrated in the blood or urine in healthy children. But in diseased conditions of the intestinal tract he could find albumin in the blood and urine when much smaller quantities were given. The permeability of the intestinal wall was greatest in acute intoxications. Precipitating sera were used to demonstrate the albumin in the blood. It appeared in the urine more readily than in the blood. Lust remarks that the albumin of cattle and horse sera is less suitable for the test than egg albumin. This test may be of value clinically in determining the condition of the intestines, for recovery may take place even when albumin passes into the blood in considerable amounts.

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108 Overfatigue. (Uebermüdung.) A. Schmidt.
109 *Diabetic Coma. (Das Wesen und die Behandlung des Coma diabeticum.) F. Rolly.
110 Tumors in the Lungs. (Ueber Komplikationen und besondere klinische Verlaufsweisen der Lungengeschwülste.) A. Fraenkel.
111 Tuberculin Salve Reaction. (Studien über Tuberkulin-Percutanreaktionen.) F. Wegerer.
112 Calcium in Therapeutics. (Ueber Calciumtherapie.) P. Saxl.
113 *Tubercle Bacilli in the Blood-Stream. (Vorkommen von Tuberkelbacillen im strömenden Blute.) H. Dreesen.
114 Analysis of the Dissociated and Athetoid Motor Disturbances in Traumatic Hysteria. A. Wimmer.
115 Hemorrhage from the Uterus of New-Born Infants. A. Juda.
116 Internal Hemorrhage the Seventh Day After Contusion of the Spleen. H. Hahn.
117 Urobilinogen in Urine as Index of Liver Disease. (Kurze Bemerkung zur differentiellen Diagnostik der Affektionen der Leber.) E. Münzer.
118 Differential Blood-Count. (Die Differenzierung der weissen Blutzellen in der Zählkammer.) R. Lenzmann.

109. **Diabetic Coma.**—Rolly has been examining the blood in hundreds of patients in the last few years to determine its electric tension. The list includes a number with diabetic coma. While in health the blood shows moderate alkalinity, in eleven cases of diabetic coma there was an acid reaction in three; in the others the blood proved to be alkaline. One patient succumbed to the coma who had an entirely normal reaction in the blood. These findings indicate that the coma and the fatal termination could not have been due to the action of acids alone. The patients who showed an acid reaction were given sodium bicarbonate up to such amounts that the blood reaction became normal, and yet the general condition did not improve and the fatal outcome was not averted. Diabetic coma is thus proved to be not a pure acid intoxication in the sense of Naunyn. Experience has shown that coma once developed is beyond our influence. Treatment must therefore aim to prevent its development or to arrest it in its incipiency. Sodium bicarbonate should be given freely as it promotes the elimination of the acetone bodies. If the coma is already installed, Rolly advises intravenous injection of a liter of a 3 to 5 per cent. solution of the bicarbonate, some by the mouth and injecting 50 gm. of the solution several times a day by the rectum. In addition he advises infusion of from 3 to 5 liters a day of saline with possibly venesection just preceding. A mild purgative may aid in the elimination of the poison; it may help to rinse out the stomach and intestines although Rolly has never witnessed any benefit from this himself. Still more important are stimulants and drugs to promote diuresis.

113. **Tubercle Bacilli in the Blood-Stream.**—Dreesen examined the blood of seventy patients and found tubercle bacilli in 74 per cent. of thirty-one patients with unmistakable tuberculosis; in 55 per cent. of nine suspects, and in 46 per cent. of thirty free from any signs of tuberculosis. He thus obtained positive findings in 60 per cent. of the total seventy cases but inoculation of 128 animals was followed by development of tuberculosis in only one instance.

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119 *Physiologic Surgery. R. Klapp.
120 Experimental Salvarsan Treatment. (Verhalten des Nervensystems gesunder Kaninchen zu hohen Salvarsandosen.) B. Dolnikow.
121 *Technic for Testing Kidney Functioning. (Notiz zur Funktionsprüfung der Niere.) K. Schlayer.
122 Eosinophilia Under Arsenic Treatment. (Ueber allgemeine und lokale Eosinophilie bei Ueberempfindlichkeit gegen organische Arsenpräparate.) H. Schlecht.
123 Exploratory Injection of Salvarsan. (Die praktische Verwendbarkeit der provozierenden Wirkung des Salvarsans.) Kall.
124 Cerebral Symptoms under Salvarsan. ("Vasocommotio cerebri," ein neuer Symptomenkomplex von Gehirnerscheinungen schwerster Art nach Salvarsaninfusionen, eine mittelbare Folge des Wasserfehlers.) M. Müller.
125 Quadruplets and Their Mothers. (Vierlinge und Vierlingsmütter.) H. Hauser.
126 Rupture of Gravid Uterus in Cesarean Section Scar. G. Schwarz.
127 Localization of Foreign Body in the Eye. M. Reichmann (Chicago).

119. **Physiologic Surgery.**—Klapp remarks that a book on the behavior of the organs under pathologic conditions is needed, written from the standpoint of the surgeon—a companion to Krehl's "Pathologic Physiology." Both surgical physiology and physiologic surgery require further development, and he cites numerous instances where empiric methods have proved their usefulness and further study of the physiology involved has explained the reasons for the benefit from them. The old treatment of diffuse peritonitis on the same principle as treatment of an abscess, proved a mistake, and progress has come as physiologic conditions became more and more respected, leaving the major part of the work to the peritoneum itself and refraining from anything that will lower the vital powers of the peritoneum. He advocates sifting all methods and selecting always the ones which resemble most closely physiologic conditions. He hopes that the recent research on keeping tissues alive outside of the organism will result in the discovery of some fluid which can be regarded as absolutely physiologic. To date we know of nothing of the kind; physiologic salt solution is far from the ideal. Blood-serum seems to be proving the best nutrient medium in Carrel's work in this line, thus showing that it is the most physiologic. But its use for infusion and rinsing out th peritoneal cavity is questionable on account of the individ differences in blood-serum. He has given up trying to r out the abdominal cavity with diffuse peritonitis on accor the lack of a fluid which would be free from all c action on the peritoneum, and he merely aspirates the exudate with a large vacuum tube before the cavity dry. Rehn ascribes great impor of the abdominal pressure, and his method of the abdominal cavity the reasons he advan physiologic conditio peristalsis favored. the last few year realized it has